

Consejería de Agricultura, Ganadería,  
Pesca y Desarrollo Sostenible

# Basic Environmental Data of Andalusia

2019



Basic Environmental Data of Andalusia 2019.

This publication, released on a regular basis since 1995, includes the main cartographic and statistical information regarding the andalusian environment, well organized and summarized, providing an overview of the environmental reality in Andalusia.

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The digital version of this document is also available and can be downloaded from the Consejería de Agricultura, Ganadería, Pesca y Desarrollo Sostenible website.

<http://www.juntadeandalucia.es/medioambiente/ddbb19>



# Territorial context

## POPULATION IN ANDALUSIA 2019 [1]-[2]\*

**8,410,002 inhabitants**

47,007,367 inhabitants in Spain 2019

## AREA OF ANDALUSIA [2]

**87,600.7 km<sup>2</sup>**

505,983 km<sup>2</sup> in Spain

\* See information sources on the back cover.

Population on 01/01/2019

## ANDALUSIA IN THE EUROPEAN UNION [3]

### Population (inhabit)

	Germany	83,019,213
	France	67,028,048
	Great Britain	66,647,112
	Italy	60,359,546
	Spain	47,007,367
	Poland	37,972,812
	Romania	19,401,658
	Netherlands	17,282,163
	Belgium	11,467,923
	Greece	10,722,287
	Czech Republic	10,649,800
	Portugal	10,276,617
	Sweden	10,230,185
	Hungary	9,772,756
	Austria	8,858,775
	<b>ANDALUSIA</b>	<b>8,410,002</b>
	Bulgaria	7,000,039
	Denmark	5,806,081
	Finland	5,517,919
	Slovakia	5,450,421
	Ireland	4,904,226
	Croatia	4,076,246
	Lithuania	2,794,184
	Slovenia	2,080,908
	Latvia	1,919,968
	Estonia	1,324,820
	Cyprus	875,898
	Luxembourg	613,894
	Malta	493,559

Population on 01/01/2019

Andalusia ranks 16th in number of inhabitants in the ranking of the countries of the European Union.

The Andalusian territory, with a total of 778 municipalities, is characterized by a dense network of heterogeneous population centers. Just over half the population is concentrated in 29 municipalities with over 50,000 inhabitants, while the region as a whole does not reach 100 inhabitants per km<sup>2</sup>.

## DISTRIBUTION OF THE ANDALUSIAN POPULATION ACCORDING TO THE SIZE OF THE MUNICIPALITIES 2018 [2]

Typology	Municipalities (number)	Population
Up to 5,000 inhabitants.	521	10.7 %
5,001 – 10,000 inhabit.	103	8.6 %
10,001 – 30,000 inhabit.	108	22.4 %
30,001 – 50,000 inhabit.	17	7.5 %
50,001 – 100,000 inhabit.	17	15.1 %
More than 100,000 inhabit.	12	35.8 %
<b>Total</b>	<b>778</b>	<b>100 %</b>



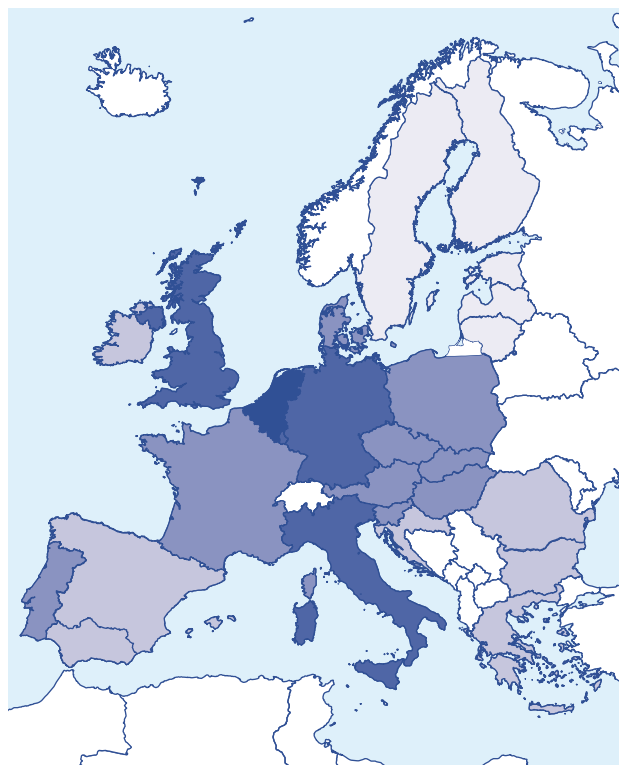
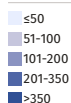
## POPULATION DENSITY 2017 [3]

Population of the European Union UE-28

**512.379.225** inhabitants

Population on 01/01/2019

inhabitants/km<sup>2</sup>



## Climate and climate change

2018 behaved as a cold and wet year as a whole, with an irregular distribution of rainfall and a tendency to drought, which maintains uncertainty about the availability of water resources in the region. Special attention deserves the indicator relating to global warming which, although it decreases slightly in 2018 due to the colder nature of the year, maintains its upward trend since the 1980s, highlighting the increase in temperatures experienced in recent decades.

AVERAGE TEMPERATURE IN ANDALUSIA IN 2018

15.6 °C

16.1 °C Average temperature in the period 1971-2000

AVERAGE RAINFALL IN ANDALUSIA IN 2018

675 mm

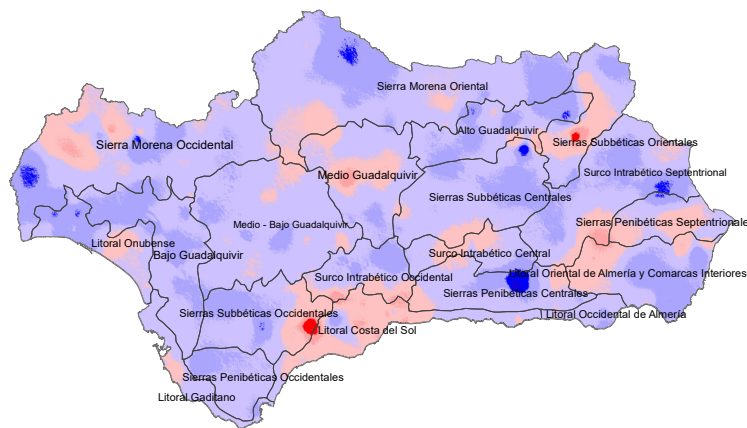
567 mm Average rainfall in the period 1971-2000

TOTAL GREENHOUSE GAS EMISSIONS IN ANDALUSIA 2017

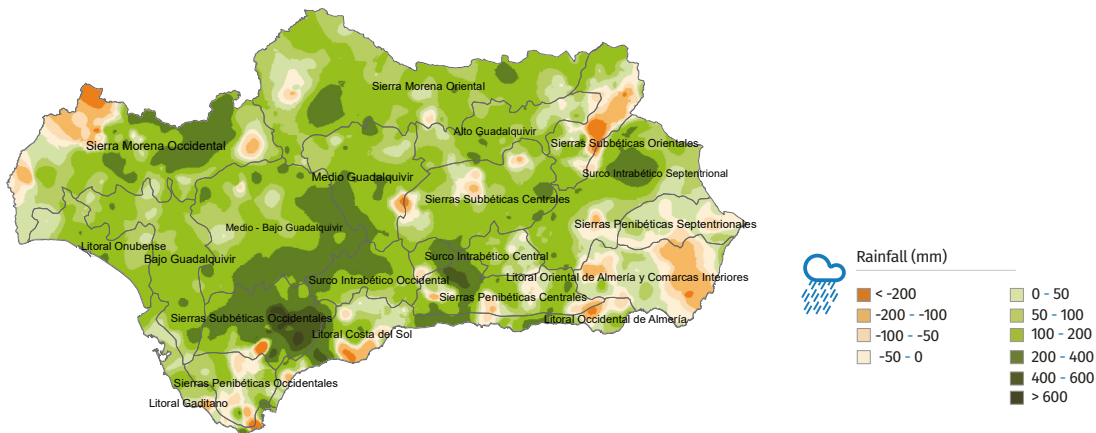
51,760 ktCO<sub>2</sub>eq

340,231 ktCO<sub>2</sub>eq in Spain [4]

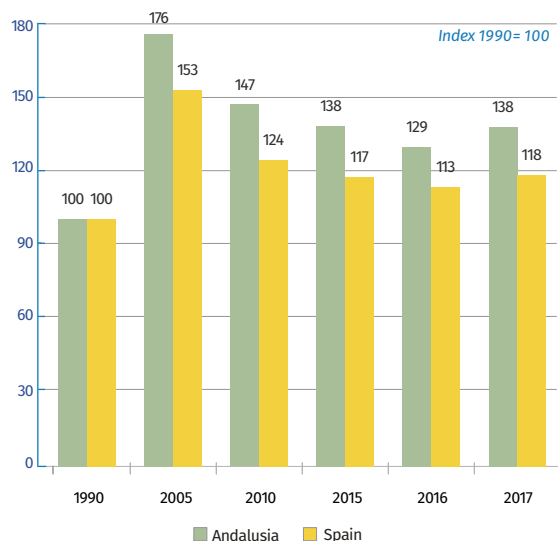
AVERAGE TEMPERATURES DEVIATIONS IN 2018 COMPARED TO THE AVERAGE VALUES DURING THE PERIOD 1971-2000 IN ANDALUSIA



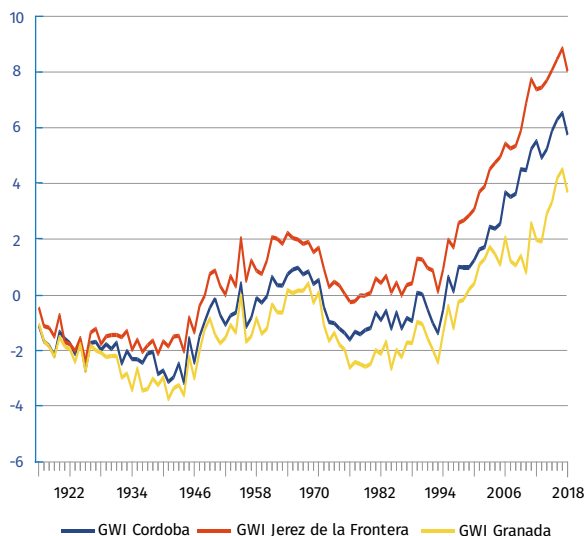
TOTAL RAINFALL DEVIATIONS IN 2018 COMPARED TO THE AVERAGE VALUE DURING THE PERIOD 1971-2000



## TRENDS IN GREENHOUSE GAS EMISSIONS IN SPAIN AND ANDALUSIA [4]



## GLOBAL WARMING INDEX IN ANDALUSIAN REFERENCE SITES

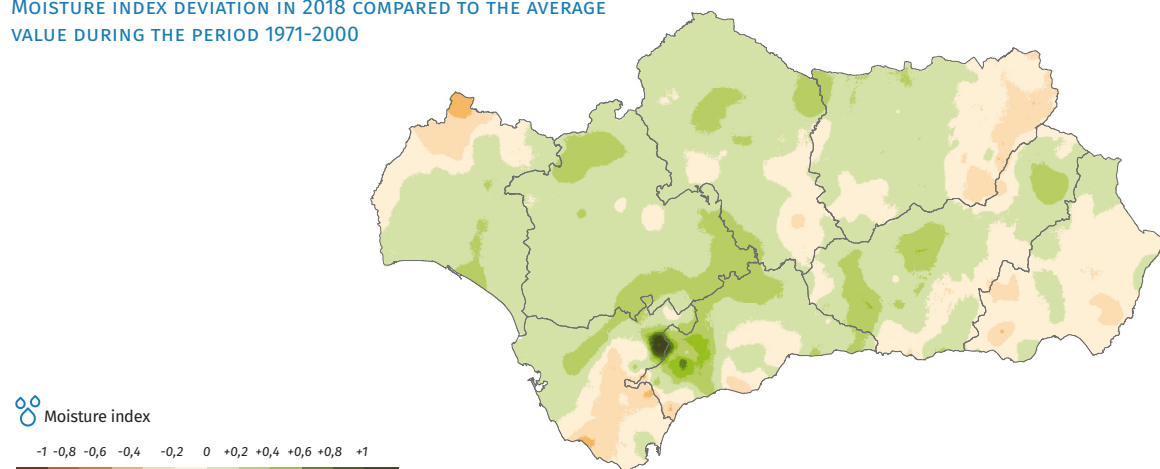


## COMPARISON OF THE EVOLUTION OF TOTAL GREENHOUSE GAS EMISSIONS IN ANDALUSIA AND SPAIN [1] [4]

	1995	2000	2005	2010	2015	2016	2017
GHG emissions in Andalusia (kt CO <sub>2</sub> eq)	43,074	52,882	66,60	55,232	51,898	48,629	51,760
GHG emissions in Spain (kt CO <sub>2</sub> eq)	328,614	387,528	441,038	357,677	337,599	326,383	340,231
GHG emissions in Andalusia <i>per capita</i> (tCO <sub>2</sub> equiv/inhabit.)	5.95	7.20	8.36	6.58	6.18	5.80	6.7
GHG emissions in Spain <i>per capita</i> (tCO <sub>2</sub> equiv/inhabit.)	8.28	10.88	9.93	7.59	7.25	7.01	7.29
GHG emissions in Andalusia per unit of GDP (kg/euro)	0.70	0.61	0.51	0.38	0.36	0.32	0.33
GHG emissions in Spain per unit of GDP (kg/euro)	0.47	0.45	0.44	0.34	0.32	0.29	0.29

The data from the National Air Pollutant Emission Inventory replace previous editions of the inventory. In this edition (1990-2017), certain improvements and corrections have been implemented with respect to the previous edition that may have led to variations in the historical data.

## MOISTURE INDEX DEVIATION IN 2018 COMPARED TO THE AVERAGE VALUE DURING THE PERIOD 1971-2000



## Natural resources. Vegetation and land use

The state of the vegetation is monitored through the global water stress indicator, which measures the influence of drought. According to the available records, the values of this indicator remain below the average from 2009 to the present. With regard to the evolution of land use, the analysis based on the SIOSE-Andalusia project shows a slight decline in forest and natural areas and in agricultural areas, and an increase in built and altered areas, while wetlands and water bodies remain unchanged (period from 2005 to 2013).

### FOREST AND NATURAL AREAS <sup>1</sup>

**44.194,17 km<sup>2</sup>**

Main land use in Andalusia in 2013:

**50,5 % of the regional area**

### REGIONAL AREA WITH STRESSED VEGETATION IN THE HYDROLOGICAL YEAR 2017-2018 <sup>2</sup>

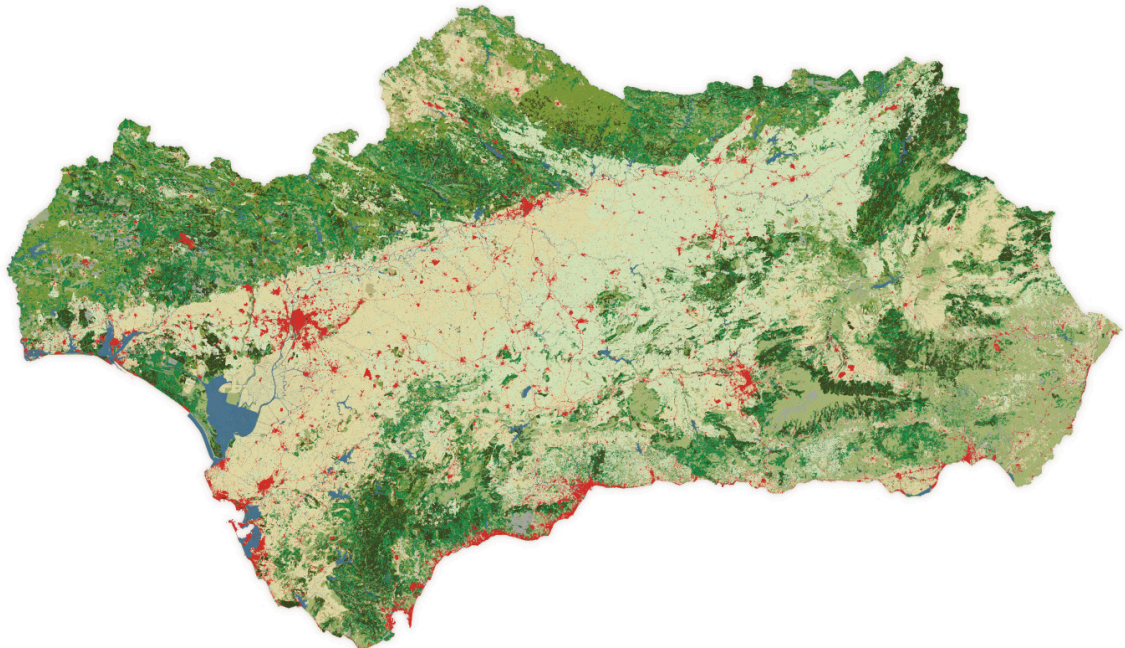
**18,4%**

22 % average value of the historical series (2002-2018)

*1. Information extracted from the cartographic base of the project "SIOSE Andalucía" (Information System of Land Use in Spain).*

*2. Percentage of stressed vegetation from NDVI Terra-Modis images (Global Stress Indicator).*

SIOSE ANDALUSIA MAP 2013



- |  |  |  |   |
|--|--|--|---|
| <span style="color: red;">■</span> Constructed and altered areas   | <span style="color: #808000;">■</span> Scrublands and pasturelands without trees | <span style="color: #006400;">■</span> Scrublands with trees   | <span style="color: #808080;">■</span> Areas without vegetation |
| <span style="color: #D2B48C;">■</span> Arable crops and greenhouse | <span style="color: #808000;">■</span> Mixed crops and vegetation                | <span style="color: #006400;">■</span> Pasturelands with trees |   |
| <span style="color: #D2B48C;">■</span> Woody crops                 | <span style="color: #006400;">■</span> Forest                                    | <span style="color: #000080;">■</span> Wetlands areas          |   |

## CHANGES IN LAND USE IN ANDALUSIA

	2005	2009	2011	2013
Forest and natural areas	4,555.8	4,399.2	4,385.6	4,418.4
Constructed and altered surfaces	3,541.9	3,665.1	3,650.7	3,516.8
Agricultural areas	359.2	390.3	409.2	510.5
Water bodies and wetlands	302.9	305.0	314.1	311.9

(Thousands of hectares)

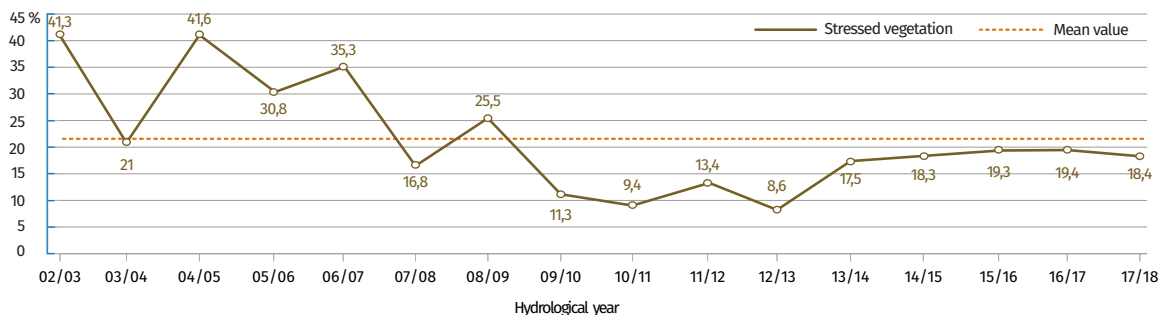


## LAND USE BY PROVINCE IN 2013

	Almeria	Cadiz	Cordoba	Granada	Huelva	Jaen	Malaga	Seville	Total
Forest and natural areas	593.3	346.3	660.2	658.0	751.3	627.6	356.5	425.2	4,418.4
Constructed and altered surfaces	217.5	290.7	619.3	535.4	151.5	647.8	296.8	757.9	3,516.8
Agricultural areas	41.1	64.2	58.9	47.3	41.6	42.5	59.7	155.2	510.5
Water bodies and wetlands	24.3	43.0	38.2	22.7	70.0	30.1	17.8	65.9	311.9

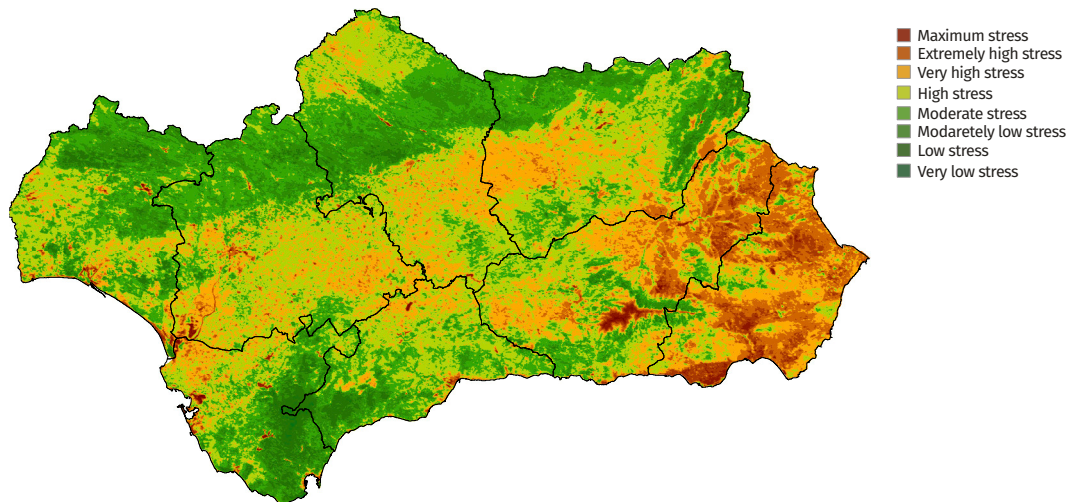
(Thousands of hectares)

## REGIONAL AREA WITH STRESSED VEGETATION



Stressed vegetation is that which is subject to water stress due to lack of water.

## VEGETATION WATER STRESS. HYDROLOGICAL PERIOD 2017-2018



## Soil and erosion

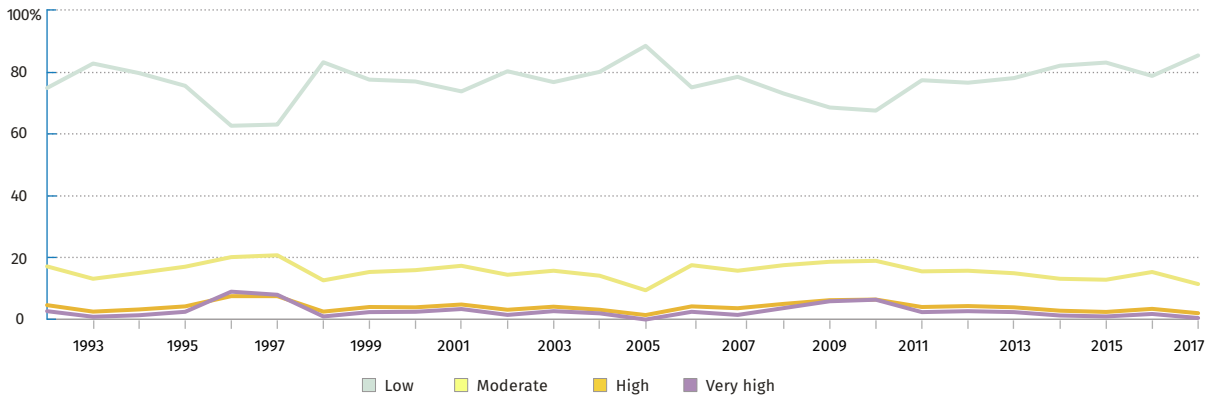
Water erosion is a natural process of soil degradation that can be accelerated by human activity. Its monitoring becomes a major environmental indicator. The low torrential rain and low rainfall in 2017 has led to the lowest soil losses since 1992, with high and very high erosion rates recorded on only 3.2% of the region's surface.

AREA WITH HIGH AND VERY HIGH SOIL LOSSES IN ANDALUCIA IN 2017

3.2 %

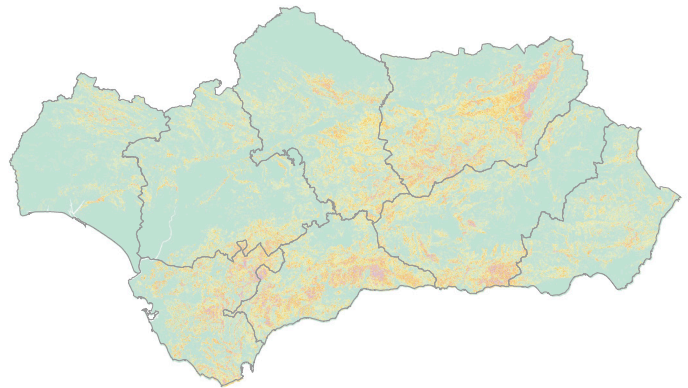
8.3 % average for the period 1992-2016

### PERCENTAGE OF SURFACE IN ANDALUCIA WITH SOIL EROSION



### SOIL LOSS IN ANDALUCIA IN 2017 (%)

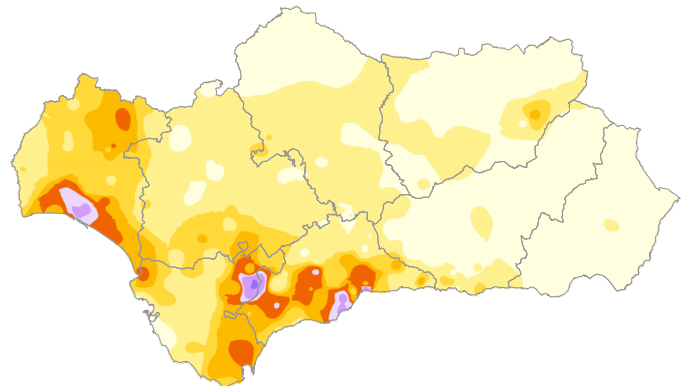
Province	Low	Moderate	High	Very high
Almeria	92.1	7.0	0.7	0.2
Cadiz	78.0	15.7	3.7	2.6
Cordoba	88.6	10.0	1.1	0.3
Granada	86.2	11.1	1.9	0.8
Huelva	94.3	4.9	0.6	0.2
Jaen	78.4	16.7	3.3	1.6
Malaga	64.4	24.4	6.6	4.6
Seville	91.8	6.6	1.1	0.5



### RAINFALL EROSIVITY IN ANDALUCIA 2017

Megajulio per milímetro/hectare per hour and year

- [0-250] Extremely low
- (250-500] Very low
- (500-750] Low
- (750-1,000] Moderately low
- (1,000-1,500] Moderate
- (1,500-2,000] Moderately high
- (2,000-3,000] High
- (3,000-5,000] Very high
- > 5,000 Extremely high



Erosivity regional average in Andalusia in 2017

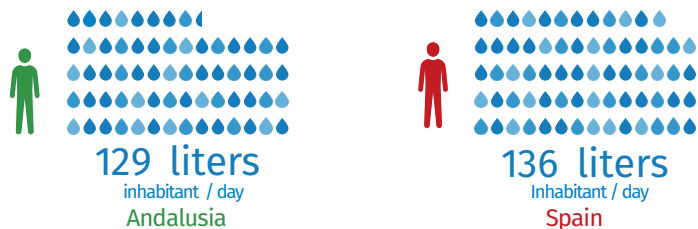
394,8 MJ\*mm/ha\*hour\*year



## Water

Water is a strategic resource of great economic importance, which is managed in Andalusia with criteria of efficiency and sustainability. Integrated water management in the region focuses on the availability of the resource, water quality, sanitation and purification of wastewater, hydraulic infrastructure and coastal water management by controlling urban and industrial discharges.

### MEAN HOUSEHOLD WATER CONSUMPTION IN 2016 [1]



### SEWAGE TREATMENT FACILITIES IN 2018

Province	Number	Benefited population *
Almeria	162	591,914
Cadiz	83	1,138,394
Cordoba	49	668,675
Granada	87	663,652
Huelva	74	486,945
Jaen	78	541,978
Malaga	80	1,356,385
Seville	59	1,793,595
<b>Andalusia</b>	<b>672</b>	<b>7,241,538</b>

\* Population benefited by sewage treatment facilities built and under construction. For the calculation of the benefited population, the figures of non-distributed population provided by the Municipal Register of Inhabitants 2018 have been considered.

### NO. OF SEWAGE TREATMENT FACILITIES BUILT UP TO 2018

**672**

### POPULATION BENEFITING FROM WATER TREATMENT IN 2018 [2]

**7,241,538 inhabitants**

### DAMMED WATER IN BASINS AND RIVERS DISTRICTS IN 2018

**6,833.5 hm<sup>3</sup>**

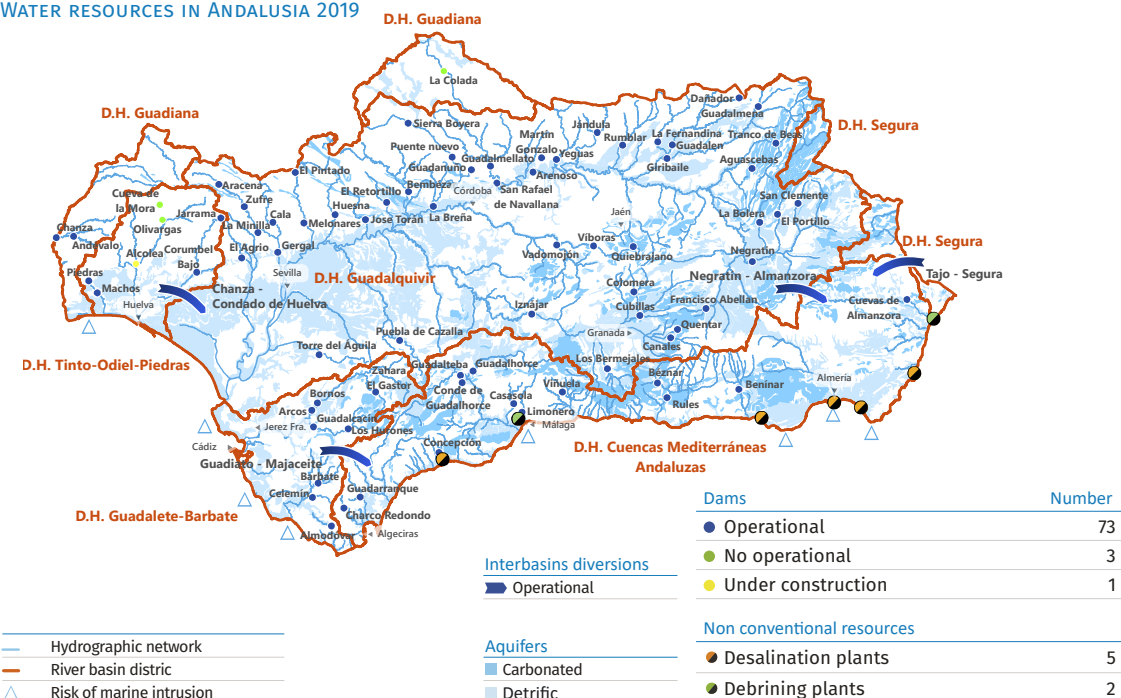
### BLUE FLAGS AWARDED IN ANDALUSIAN BEACHES IN 2019 [5]

**79**

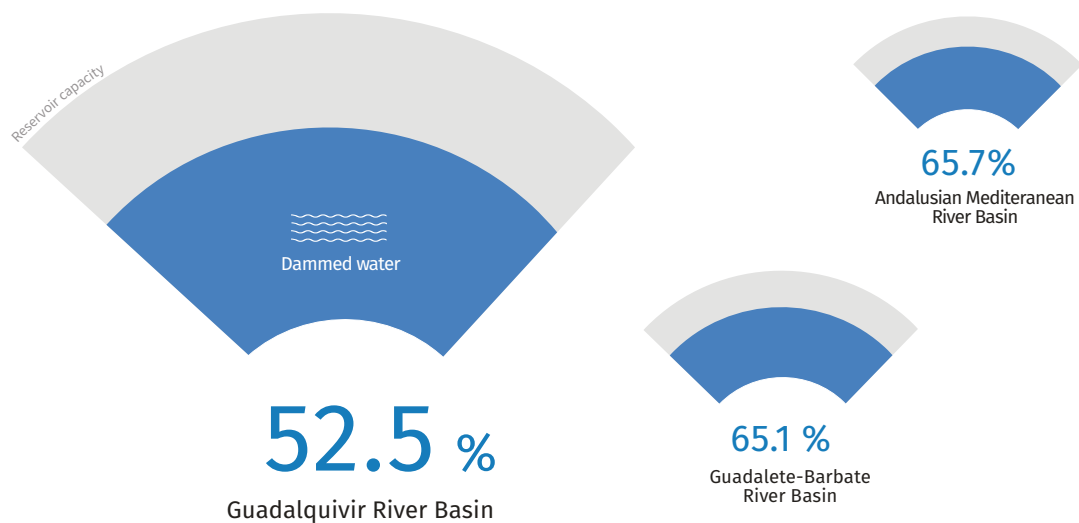
### QUALITY OF SEA BATHING WATER IN 2018 [6]

**98.3%** are of excellent quality

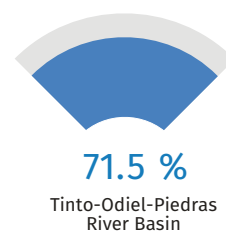
### WATER RESOURCES IN ANDALUSIA 2019



## DAMMED WATER IN BASINS AND RIVER DISTRICTS IN 2018



	Dammed water	Reservoir capacity
Andalusian Mediterranean River Basin	770.5 hm <sup>3</sup>	1,172.8 hm <sup>3</sup>
Tinto-Odiel-Piedras River Basin	791.6 hm <sup>3</sup>	1,107.9 hm <sup>3</sup>
Guadalete-Barbate River Basin	1,075.6 hm <sup>3</sup>	1,651.7 hm <sup>3</sup>
Guadalquivir River Basin	4,195.8 hm <sup>3</sup>	7,985.5 hm <sup>3</sup>
<b>Total</b>	<b>(57.3%) 6,833.5 hm<sup>3</sup></b>	<b>11,917.9 hm<sup>3</sup></b>



### NITRATE CONCENTRATION IN 2018 [4]

	Surface waters	Groundwater
Andalusian Mediterranean River Basin	5.1	23.0
Tinto-Odiel-Piedras River Basin	4.0	36.2
Guadalete-Barbate River Basin	9.6	46.0
Guadalquivir River Basin	9.5	44.4
Guadiana River Basin	3.9	78.6
Segura River Basin	3.1	22.3

Units in mg/l

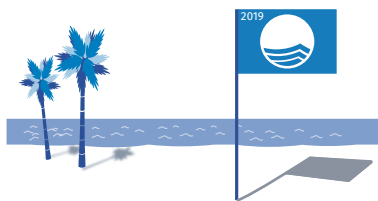
The Water Framework Directive sets as a reference the threshold of 50 mg/l, above which surface water and groundwater are considered polluted by nitrate.

### ACTIONS IN THE AREA OF CHANNELLING, FLOOD DEFENCE AND RIVERBED CLEANING (2012-2018)

	Number	Cost (€)	% Over total budget
Almeria	17	43,264,425	75.2
Cadiz	13	11,257,984	39.5
Cordoba	6	8,612,123	30.1
Granada	25	13,398,762	34.0
Huelva	11	3,066,258	42.4
Jaen	11	2,628,699	15.6
Malaga	22	11,391,492	26.4
Seville	11	42,442,169	72.6
Several Provinces	2	1,715,143	25.6
Not provincialized	2	576,262	93.0
<b>Total</b>	<b>120</b>	<b>138,353,318</b>	<b>48.2</b>

## BATHING WATER QUALITY IN ANDALUSIA 2018 [6]

	Coastal bathing water	Inland bathing water
Excelent	340	7
Good	3	9
Adecuate	1	1
Inadecuate	0	9
Non-qualified	2	2
<b>Sampled bathing areas</b>	<b>346</b>	<b>28</b>



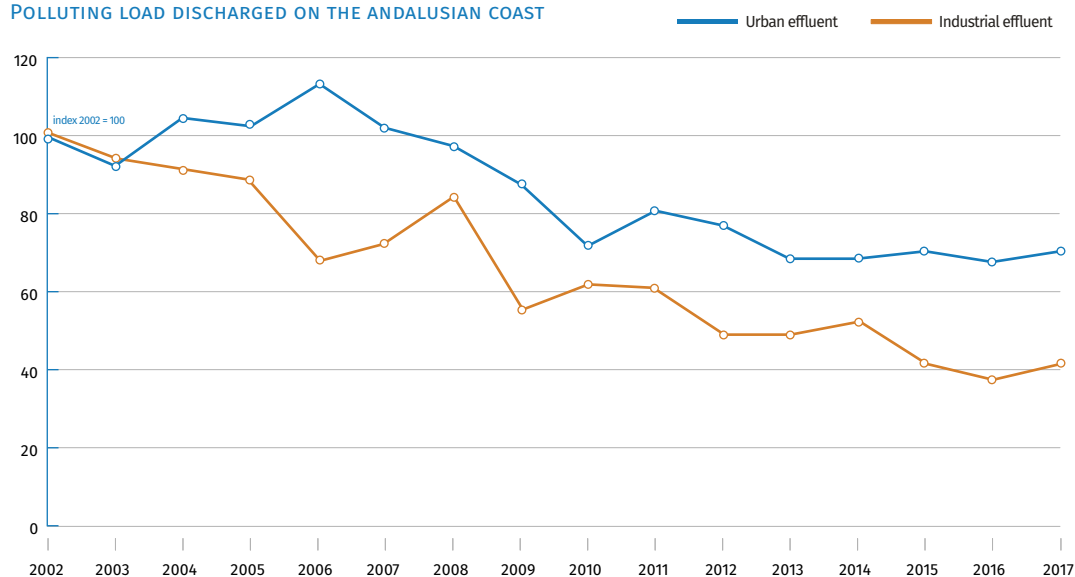
## BLUE FLAGS GRANTED TO IN ANDALUSIA IN 2019 [5]

	Beaches	Ports
Almeria	27	1
Cadiz	29	5
Granada	3	1
Huelva	3	5
Malaga	17	5
<b>Total</b>	<b>79</b>	<b>17</b>

## Coastal water quality

The quality of coastal water is essential for the health of many coastal habitats and, consequently, for the development of socio-economic activities such as fisheries, aquaculture and those with a marked recreational and leisure character. In Andalusia, the pollution load from urban and industrial discharges into coastal waters has been gradually lowered since 2001. Thus, the former has been reduced by around 45% and the latter by 62% over the last 13 years.

## POLLUTING LOAD DISCHARGED ON THE ANDALUSIAN COAST



## Coast

The coastal area represents an important value for Andalusia, both from the natural point of view and from the point of view of territorial planning, since important economic activities, such as fishing and tourism, which are key motors of our economy, are developed there. Moreover, the coast is a particularly sensitive area to the effects of climate change and unsustainable human uses. For all these reasons, it is essential to take very careful and coordinated action among all the actors involved over its management.

### SHORT COASTLINES <sup>1</sup>

**872.6 Km**

### LONG COASTLINE <sup>2</sup>

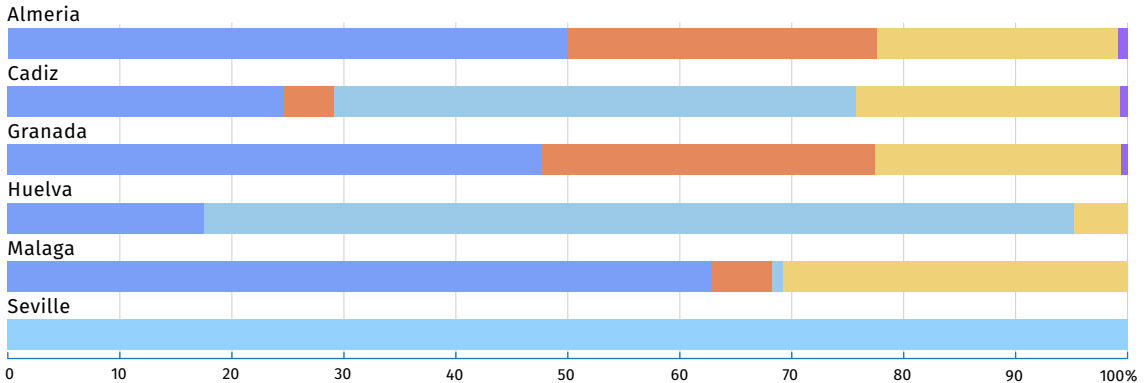
**2,321.3 Km**

1. Coastline normally exposed to the waterfront (does not include estuary margins, tidal streams or coastal infrastructure).

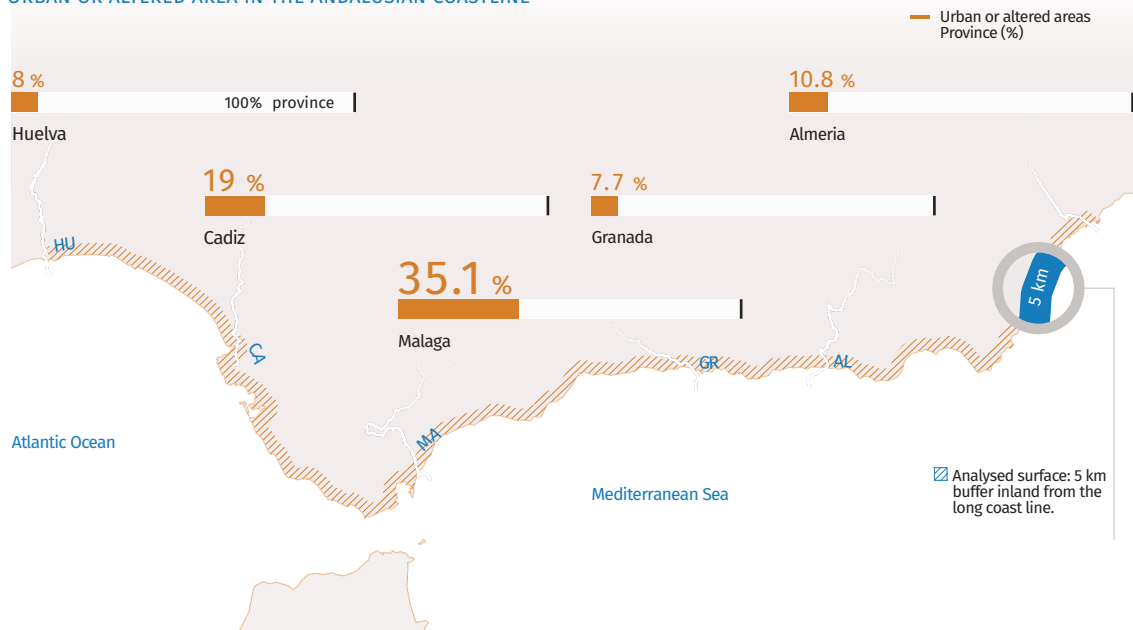
2. Line of contact with tidal waters.

### LENGTH OF LONG COASTLINE IN THE DIFFERENT COASTAL MORPHOLOGIES

	%
Exposed beaches	26.6
Rocky shore	6.5
Estuaries and tidal streams	50.5
Anthropized coastal area	14.9
Islands and islets	0.3



### URBAN OR ALTERED AREA IN THE ANDALUSIAN COASTLINE



# Natural Protected Areas

In 2019, the protected areas in the region extend over 2,935,520.02 hectares, which is 33.5% of the surface area of Andalusia.

Two have been the most significant milestones in 2019. On the one hand, the 30th anniversary of the first regional law on protected natural areas (1989), 30 years of effort and commitment to our cultural heritage. Likewise, 10 new natural monuments have been declared, while the Natura Network has not changed with respect to 2018, covering a total of 2.67 million hectares, distributed in 198 spaces.

## NETWORK OF NATURAL PROTECTED AREAS IN ANDALUSIA (RENPA) 2019

**2,935,520.02 ha**

## DEMARCATED CATTLE TRACKS IN ANDALUSIA

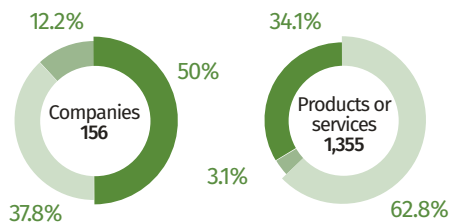
**8,879 km**

Classified cattle tracks 34,081.99 km

## NO. OF VISITORS TO PUBLIC FACILITIES IN 2018

**954,942**

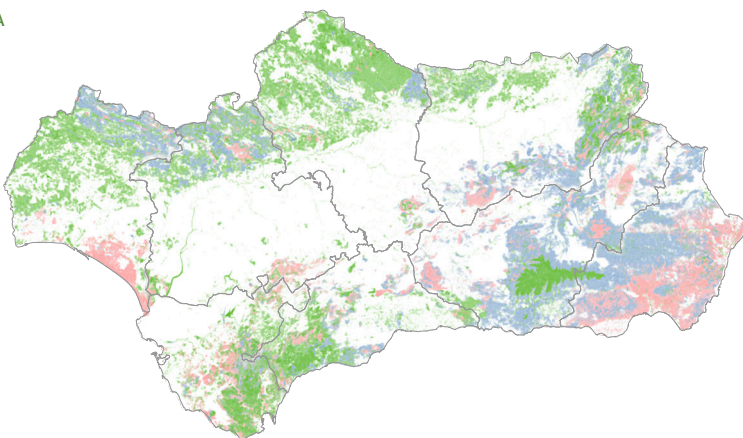
## NATURAL PARK BRAND 2018



## HABITATS OF COMMUNITY INTEREST IN ANDALUSIA

Habitat of community interest (HIC)	%
Non-priority 1	56
Priority 2	12
Priority under consideration 3	32
<b>Total</b>	<b>100</b>

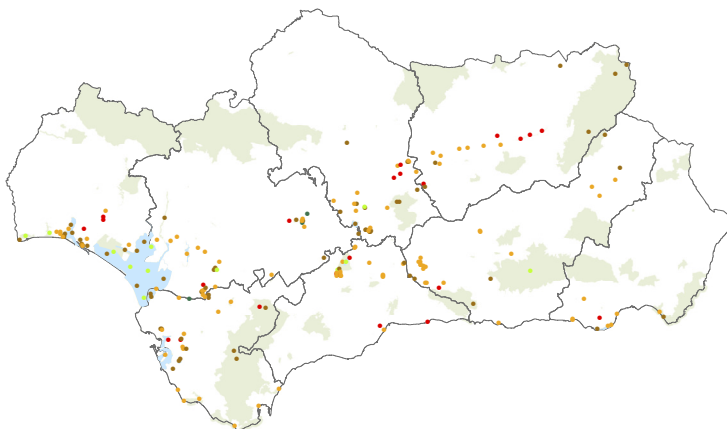
1. Area where none of the HICs present are a priority. 2. Area where at least one of the HICs present has, or is proposed to be, a priority in Andalusia. 3. Surface where habitat 6220 is present (subspecic areas of grasses and annuals of Thero-Brachypodietea) whose priority character is currently under study.



## WETLAND INVENTORY IN ANDALUSIA

Conservation status	Number
Restored	3
Well preserved	12
Preserved	72
Altered	100
Very altered	23
<b>Total</b>	<b>210</b>

- Ramsar wetlands
- Protected natural areas



### NATURAL PROTECTED AREA 2019

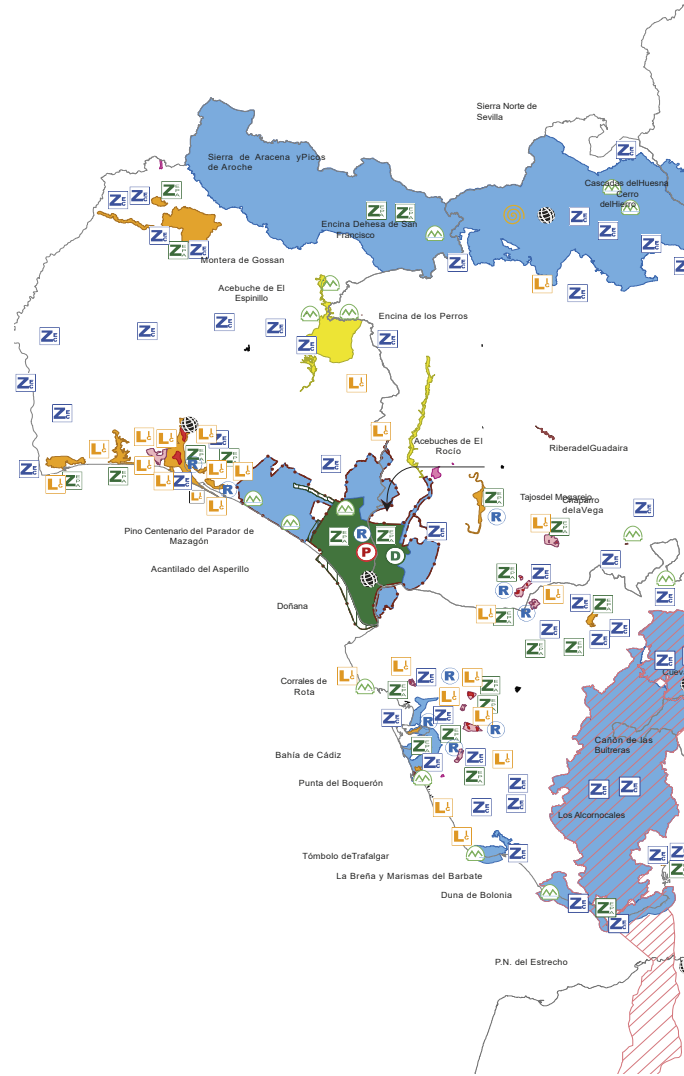
	Hectares	%
Almeria	277,385.28	9.7
Cadiz	285,099.14	10.0
Cordoba	383,296.95	13.4
Granada	329,763.49	11.6
Huelva	460,886.68	16.2
Jaen	510,596.33	17.9
Malaga	255,079.19	8.9
Seville	349,887.49	12.3
<b>Total</b>	<b>2,851,994.54</b>	<b>100.0</b>
Marine surface	83,525.47	
<b>Total with Marine surface</b>	<b>2,935,520.02</b>	

### PUBLIC USE FACILITIES IN NATURAL PROTECTED AREAS OF ANDALUSIA IN 2018

Province	Facilities
Almeria	102
Cadiz	154
Cordoba	72
Granada	197
Huelva	132
Jaen	219
Malaga	92
Seville	71
<b>Total</b>	<b>1,039</b>

	Type of facility	Number
Educational activities	Environmental education classroom	11
	Camping	8
Recreation support	Recreation ground	192
	Mountain hotel	4
	Rural house	4
Landscape watching	Scenic Viewpoint	202
Information	Visitor Center	38
	Information Point	17
Specialized Environmental Interpretation	Ecomuseum	4
	Botanical Garden	12
Wildlife watching	Observatory	66
	Wildlife park	2
	Shelter	6
Protection/overnight shelter	Shelter-bivouac	15
	Managed camping area	19
Interpretive routes	Cycle lane	35
	Signalized path	404
<b>Total</b>		<b>1,039</b>

### PROTECTED NATURAL AREAS NETWORK OF ANDALUSIA 2018

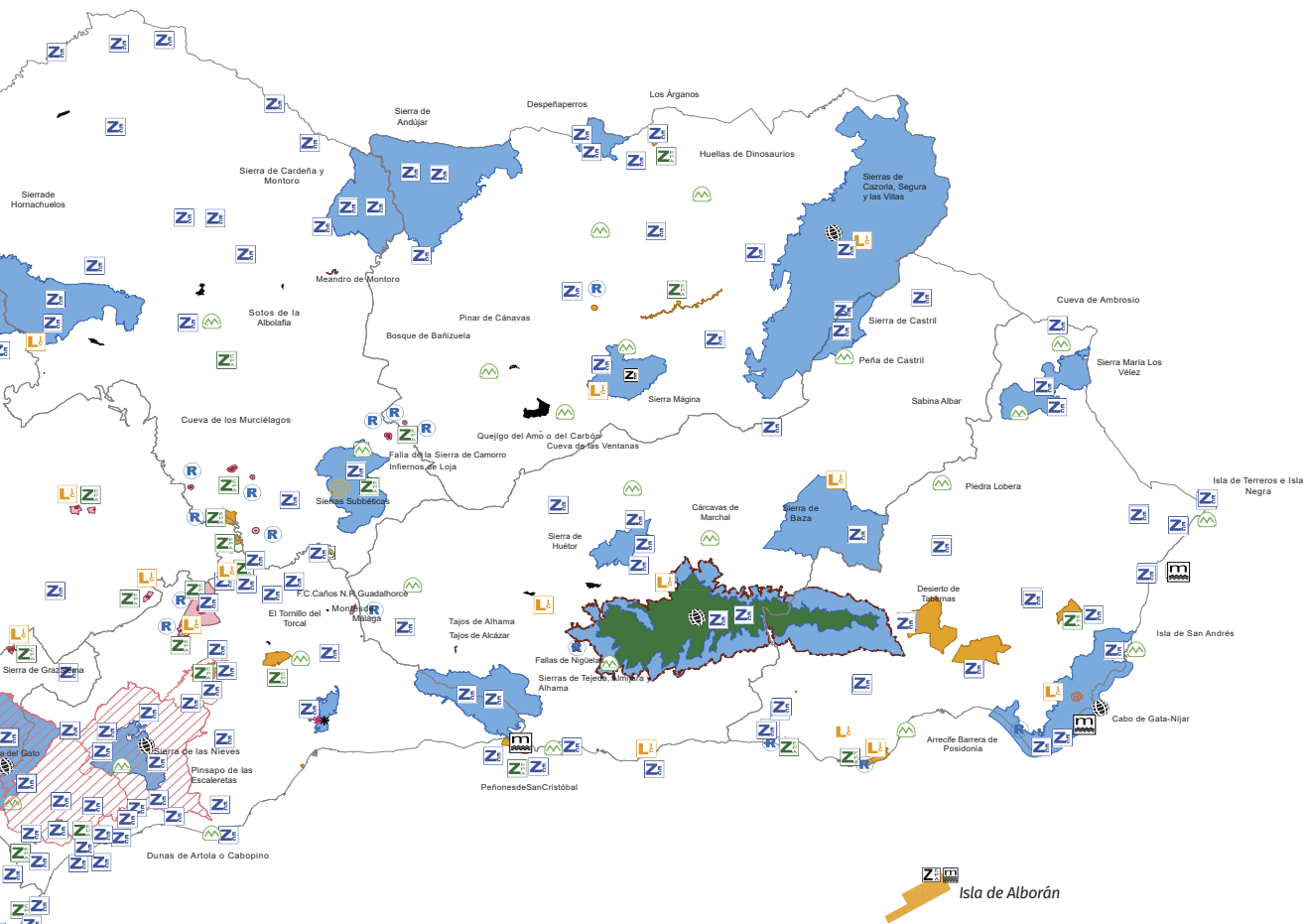


\*The surface in these protection figures includes the protection zones where appropriate. It includes partial territorial overlaps between different spaces, as well as marine surface.

\*\*It includes the total area of the RBIM (907,185 ha Morocco + Andalusia). In the overlapping areas the surface is counted only once.

#### Other protected areas

- Protected areas around National Park
- Protected areas around Natural Monument
- Protected areas around Natural Reserve



## International accreditations

	No.	Area (ha) *
Biosphere Reserve	9	2,052,100.45 **
World Park	1	54,251.65
Geopark	3	259,044.49
RAMSAR wetland agreement	25	143,138.82
Specially Protected Areas of Mediterranean Importance	4	84,132
Mediterranean Intercontinental Biosphere Reserve	1	907,185

## Typology of protected areas

	No.	Area (ha) *
National park	2	146,232.55
Natural park	24	1,439,509.46
Protected landscape	2	19,663.59
Natural site	32	91,445.87
Periurban park	21	6,020.11
Natural monument	49	1,368.03
Natural reserve	28	22,489.85
Concerted natural reserve	5	804.22

## Natura 2000 network

Sites of Community Importance	190	2,608,078.61
Special areas of conservation	163	2,539,890.68
Special protection areas (Birds Directive)	63	1,665,310.43
Sites of Community Importance: new proposals	-	5,852.52

# Management of the natural environment

Slightly more than half of Andalusia is occupied by forests. The Forestry Plan is the guiding document that serves to manage and monitor this important portion of our territory, which sustains the enormous wealth and variety of our natural environment. The key is to combine conservation and maintenance tasks with the socio-economic use of these areas, while also promoting their environmental values.

## Forest

The control of forest fires and the elimination of pests and diseases are two of the most important pillars in the management of our rich natural heritage. The indicator showing the evolution of forest fires in 2018 shows a positive evolution. For its part, the indicator of the phytosanitary status of forests, in terms of damaged hardwoods and conifers, also displays positive values this year.

PERCENTAGE OF DAMAGED TREES IN SAMPLED PLOTS \* IN ANDALUSIA 2018 [7]

**23.6%**

20.6 % in Spain [7]

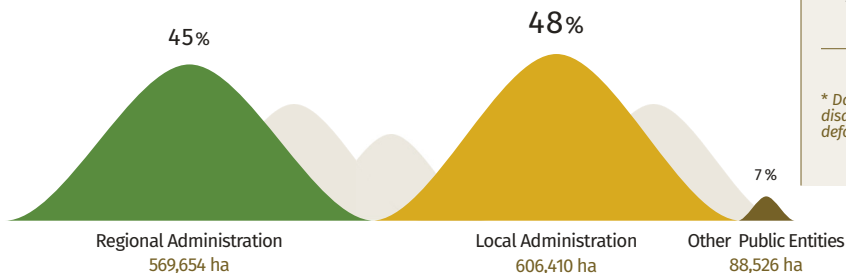
SURFACE AFFECTED BY FOREST FIRES IN ANDALUSIA 2018

**3,184 ha**

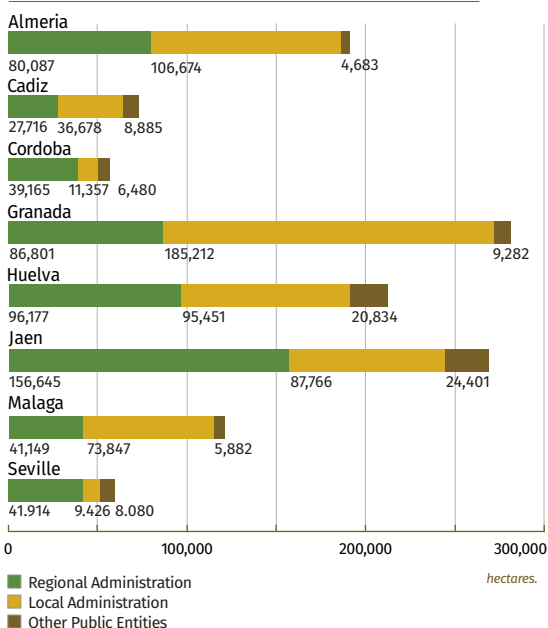
25,162.4 ha in Spain [7]

\* Damaged trees are those whose feet have died or disappeared and those with more than 25% defoliation.

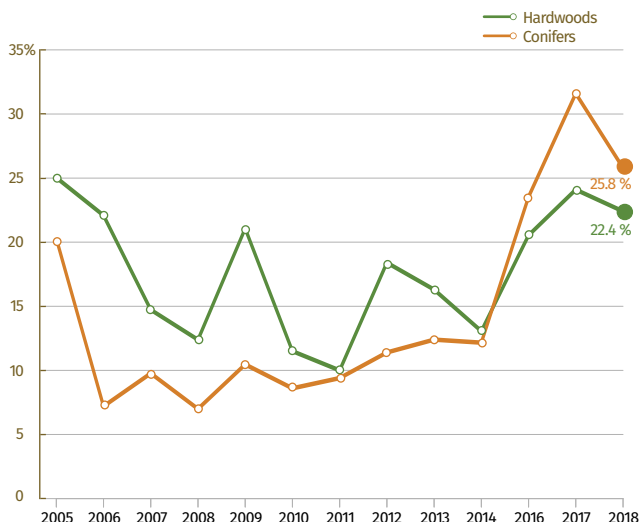
## OWNERSHIP OF THE PUBLIC FOREST OF ANDALUSIA 2018



Total Andalusia  
**1,264,590 ha**

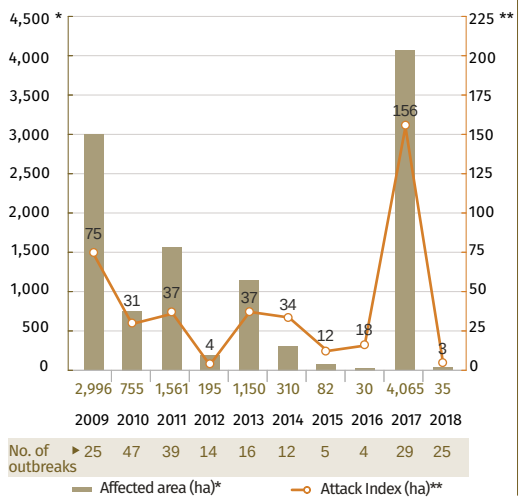


## PERCENTAGES OF TREES DAMAGED BY PEST ACCORDING TO SPECIES GROUPS IN SAMPLED PLOTS [7]



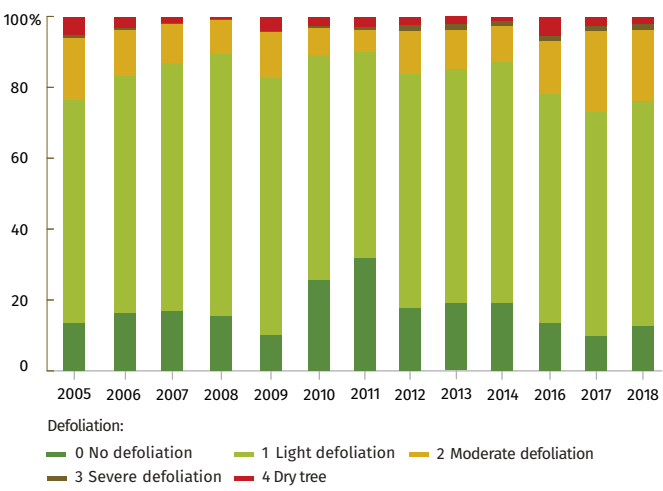


**EVOLUTION OF THE SURFACE AFFECTED BY DRILLERS, ATTACK INDEX AND NUMBER OF OUTBREAK**



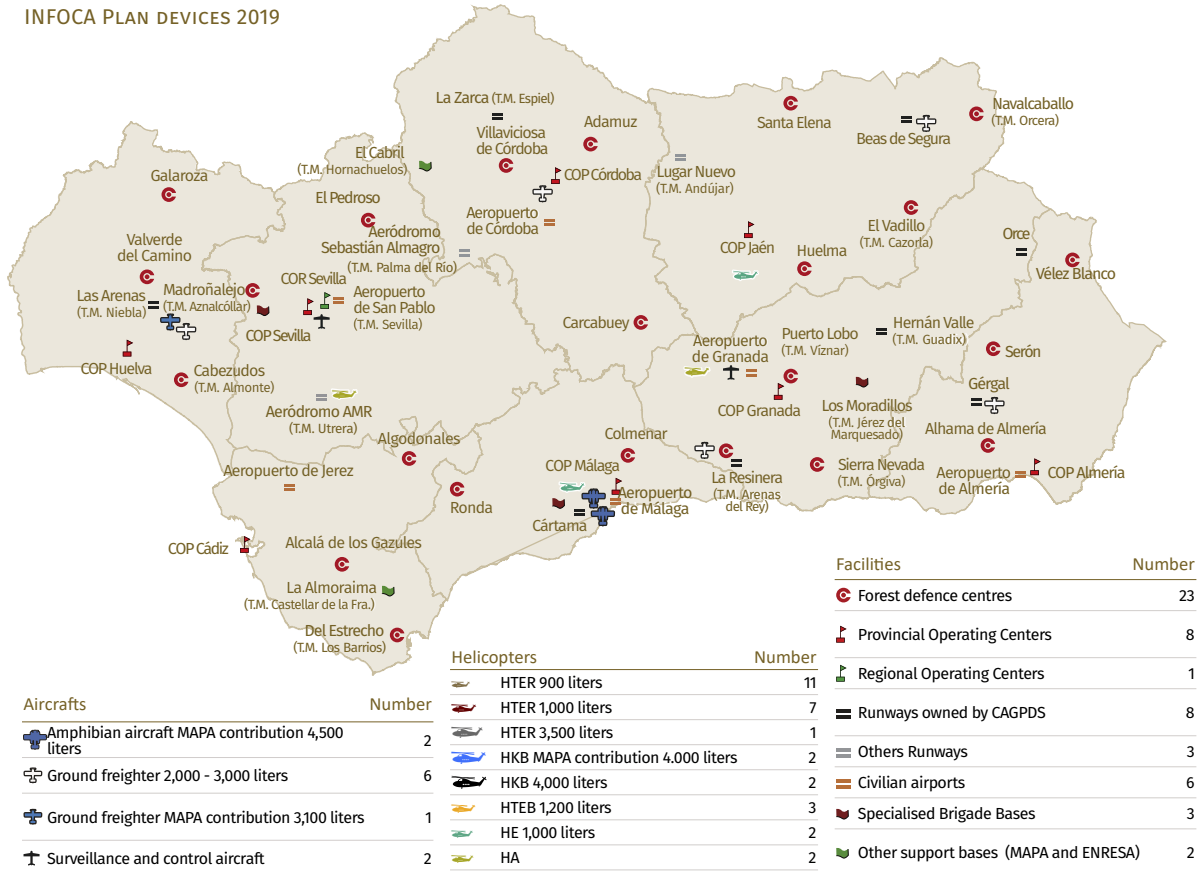
The attack rate is defined as the area of dead trees whose cause is directly attributable to drillers.

**EVOLUTION OF THE PHYTOSANITARY STATUS OF ANDALUSIAN FOREST [7]**



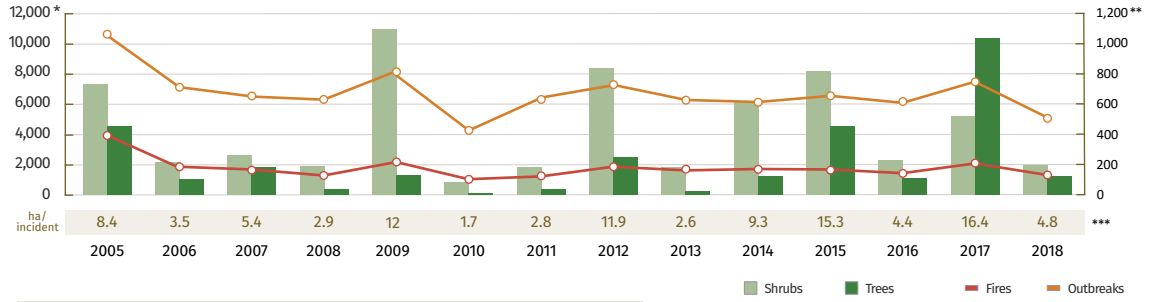
Degrees of defoliation or damage according to European standards: 0. Trees without damage (defoliation 0-10%); 1. slightly damaged (11-25%); 2. moderately damaged (26-60%); 3. severely damaged (> 60%); 4. dry or dead tree (100%).

**INFOCA PLAN DEVICES 2019**

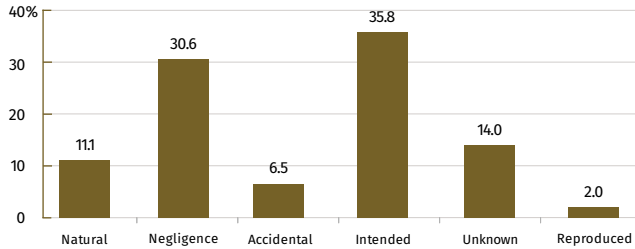


**ENRESA:** Empresa Nacional de Residuos Radiactivos. **HE:** Extinction Helicopter. **HA:** Support Helicopter. **HKB:** Heavy helicopter bombardier. **HTEB:** Specialist transport and extinguishing helicopter. **HTEB:** Brigade and extinction transport helicopter. **MAPA:** Ministerio de Agricultura, Pesca y Alimentación. **CAGPDS:** Consejería de Agricultura, Ganadería, Pesca y Desarrollo Sostenible.

AREA AFFECTED BY FOREST FIRES IN ANDALUSIA, NUMBER OF EVENTS AND AVERAGE AREA AFFECTED BY THE EVENT



PERCENTAGE OF INCIDENTS BY CAUSE 2018



\* Burned forest areas: hectares (ha).  
 \*\* Number of incidents. An outbreak is considered when the area affected is ≤ 1 ha.  
 \*\*\* Average area: ha/incident.

CENSUS OF WATER BIRDS IN ANDALUSIA 2018

Reproductive couples **148,000**  
 Wintering birds **707,209**

IBERIAN LYNX ANDALUSIA 2018

**445** individuals

COUNTS IN ANDALUSIA 2018

**7,506** Hunting **36** Fishing

Biodiversity

To protect the rich biodiversity that exists in Andalusia, the Administration uses numerous plans focused on monitoring the species of flora and fauna, focusing on those with the greatest degree of threat, and reinforcing the prospective aspects and research established for each species or group of species.

Cinegetic and aquaculture management

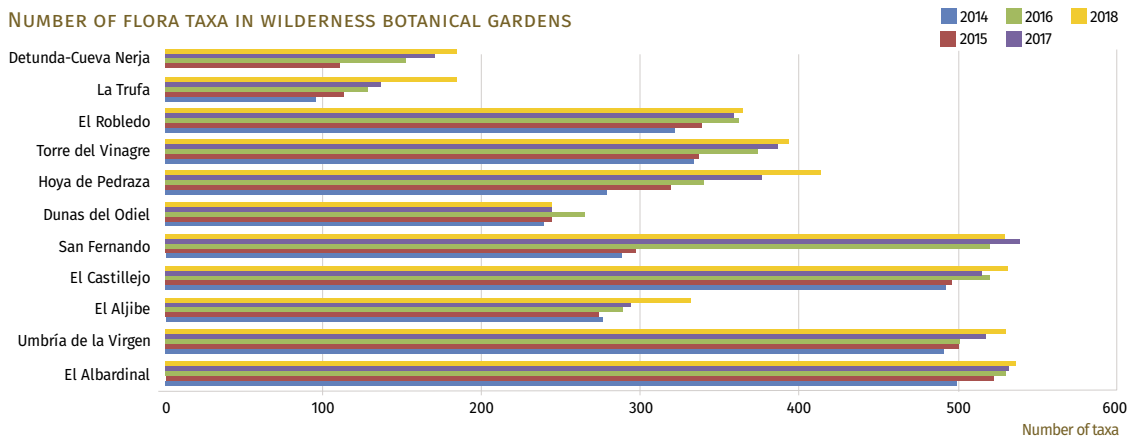
The regional environmental administration monitors the hunting and aquaculture activities in Andalusia through the control of the licenses granted and the hunting and fishing preserves authorized for such purposes, as well as of the number of individuals captured according to species.

CATALOGUED SPECIES (AS THREATENED) OF WILD FLORA AND FAUNA IN ANDALUSIA 2018

Andalusian catalogue of threatened species

	FLORA	FAUNA
In danger	64	29
Vulnerable	112	53

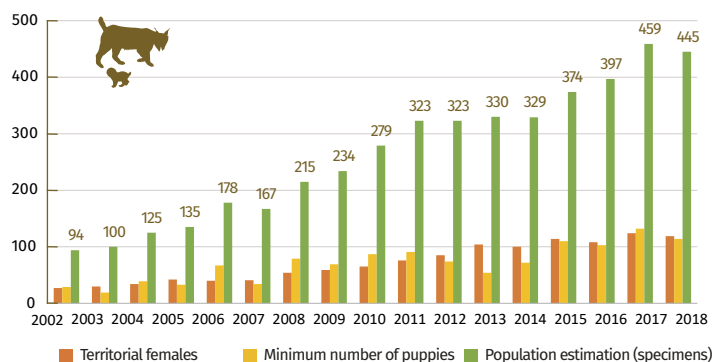
NUMBER OF FLORA TAXA IN WILDERNESS BOTANICAL GARDENS



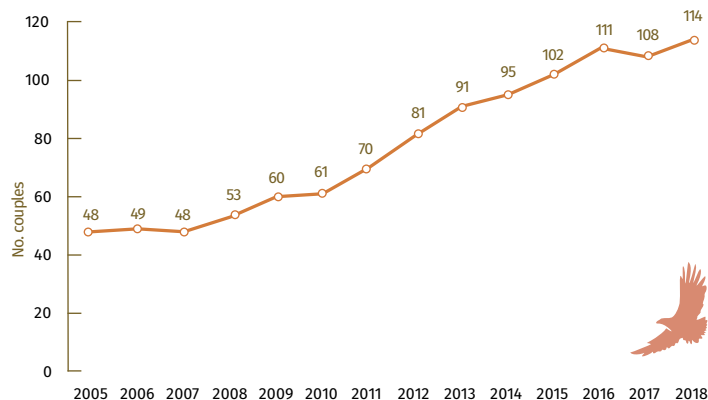
## POPULATION STATUS OF SPECIES INCLUDED IN RECOVERY AND CONSERVATION PLANS 2018

Species	Number
Wintering waterfowl	707,209
Breeding water birds (couples)	148,000
Imperial Eagle (couples)	114
Bonelli's eagle (couples)	332
Golden Eagle (couples)	322
Montagu's Harrier (nests)	626
Great Bustard (specimens)	400
Griffon vulture (couples)	3,776
Crabs (populations)	100
Peregrine Falcon (couples)	329
Ibis eremita (breeding couples)	23
Lynx (estimated population)	445
Alimoche (couples)	24
Black Vulture (couples)	406
Red Kite (couples)	31
Bearded Vulture (reintroduced couples)	2

## EVOLUTION OF IBERIAN LYNX BREEDING POPULATIONS



## EVOLUTION OF THE IBERIAN IMPERIAL EAGLE IN ANDALUSIA



## ENTRIES BY ANIMAL GROUP IN THE CREAS NETWORK 2018

Animal group	Number
Birds	4,880
Terrestrial reptiles	716
Terrestrial mammals	381
Anphibians	1,876
<b>Total</b>	<b>7,853</b>

CREA: Endangered Species Recovery Center.



## HUNTING LICENSES 2018

Type	Number
Class A	176,123
Class B	16,741
Class C	27,587
<b>Total</b>	<b>220,451</b>

4.3% less than in 2017

Class A: with firearms and other authorized procedures + hunting of large game, water birds and partridge sights with firearms; Class B: no firearms + hunting of large game, waterfowl and partridge sights without firearms; Class C: claims of partridge + falconry + rehala license.



## FISHING LICENSES 2018

Type	Number
E1	576
E2	930
P	21,141
P surcharge	5,485
<b>Total</b>	<b>28,132</b>

1.2% less than in 2017



E1: for motor boats; E2: for rowing boats; P: all species except trout; P surcharge: for trout fishing.

The challenge of integrating the environment into our economic sectors is becoming more and more necessary, and the efforts to achieve this more and more obvious. In Andalusia, the commitment to create green businesses and employment is gradually showing results, and sectors such as organic farming, sustainable tourism or renewable energy production are showing a favourable evolution and creating hopeful expectations. However, there is still a lot of work to be done, especially in the sectors related to transport, those most directly involved with polluting emissions into the atmosphere.

## ECONOMIC DATA

Foreign market [9]	2017*	2018*
Imports (thousands of euros)	29,196,650 €	32,518,850 €
Exports (thousands of euros)	30,913,331 €	32,439,283 €
Balance	1,716,682 €	-79,567 €

## Active population in

Andalusia 2018 [2]	Men	Woman	Total
Occupied (thousands of people)	1,737.7 	1,293.1 	3,030.8
Unemployed (thousands of people)	427.8	476.8	904.6
Activity rate	64.0 %	50.1 %	56.9 %
Unemployment rate	19.8 %	26.9 %	23.0 %

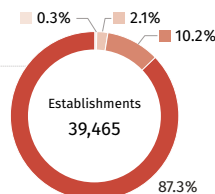
GDP and Income [1]	GDP per capita 2018	Gross household disposable income per capita 2017*
Andalusia (€)	17,263 €	11,942 €
Spain (€)	23,290 €	15,186 €

\*Provisional data.

## DIRECTORY OF COMPANIES AND ENTITIES RELATED TO THE ENVIRONMENT IN ANDALUSIA 2018

Scope of environmental action	No. of establishments
Environmental management of the atmospheric environment	0
Sustainable management of water resources and decontamination of areas	427
Waste management and recycling	3,929
Sustainable Energy management: Renewable Energy	5,548
Ecological agriculture and livestock	11,576
Management of natural protected areas and sustainable forestry activities	6,184
Ecotourism	4,144
Environmental education and awareness	749
Eco-innovation, environmental research and development	172
Other services: Multi-area environmental consulting and engineering	157
Sustainable construction: building, renovation and energy efficiency	5,555
Sustainable mobility	1,024
<b>Total</b>	<b>39,465</b>

Company size	No. of establishments
Micro 1-9 *	34,454
Small 10-49	4,055
Medium 50-249	836
Large 250 or more	120
<b>Total</b>	<b>39,465</b>



\*Number of persons employed.

## DEGREE OF MOTORIZATION IN ANDALUSIA 2018 [2]

**69.3 vehicles/100 inhab.**

72.2 in Spain

## AREA OF ECOLOGICAL AGRICULTURE IN ANDALUSIA 2018

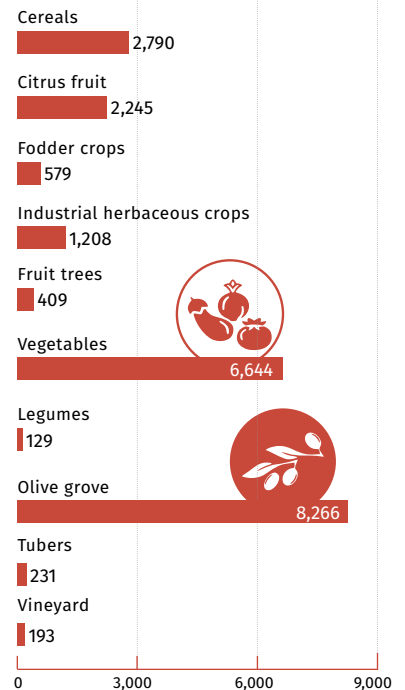
**1,024,430.5 ha**

## CONSUMPTION OF RENEWABLE PRIMARY ENERGY IN ANDALUSIA 2018 [8]

**3,314.7 ktep\***

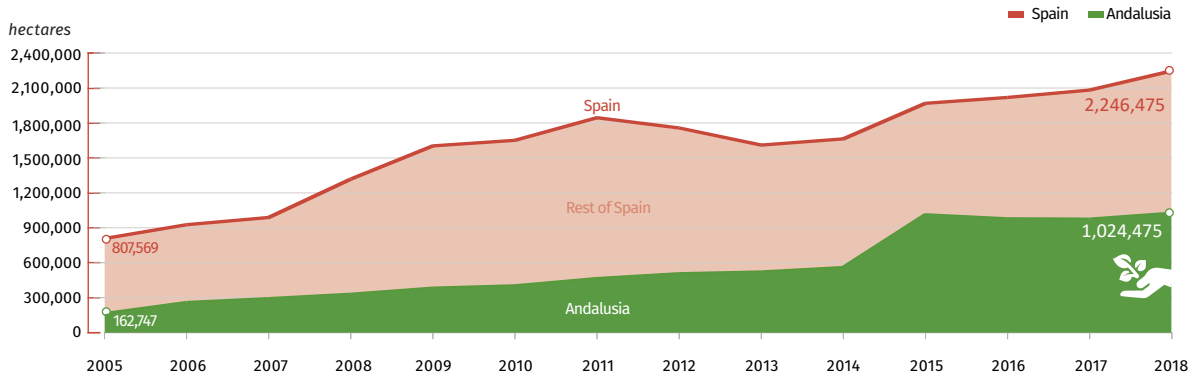
\*Thousands of tonnes of crudeoil equivalent.

## AGRICULTURAL CROP PRODUCTION 2018

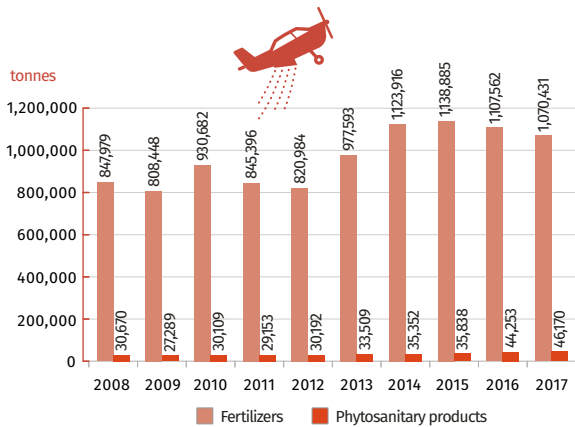


Thousands of tonnes.  
Flowers and ornamental plants: 632,634 thousands of units.

## AREA UNDER ECOLOGICAL AGRICULTURE IN SPAIN AND ANDALUSIA [7]



## CONSUMPTION OF FERTILIZERS AND PHYTOSANITARY PRODUCTS IN ANDALUSIA

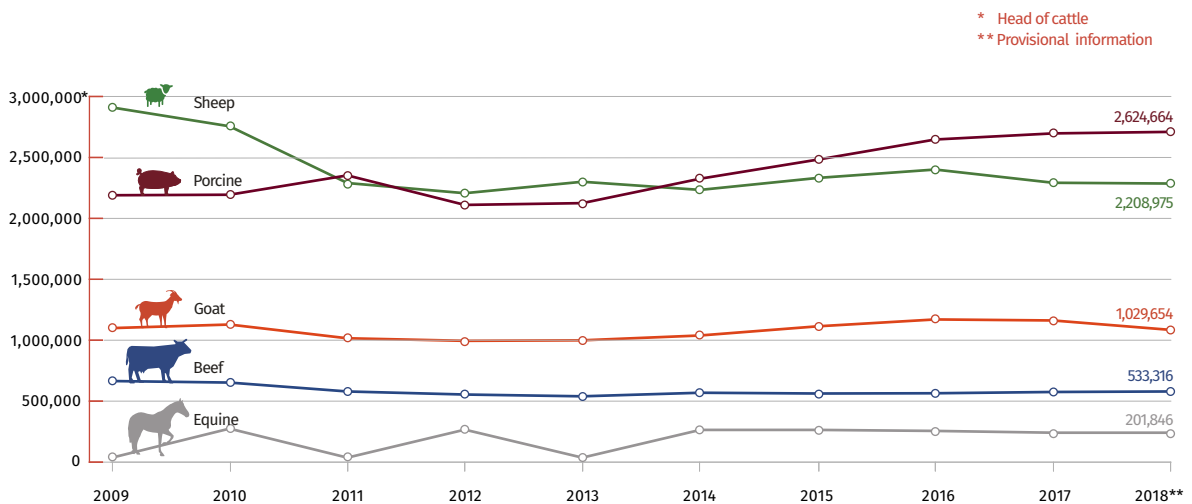


## FRESH FISH AUCTIONED AT THE MAIN ANDALUSIAN FISH MARKETS\* 2018

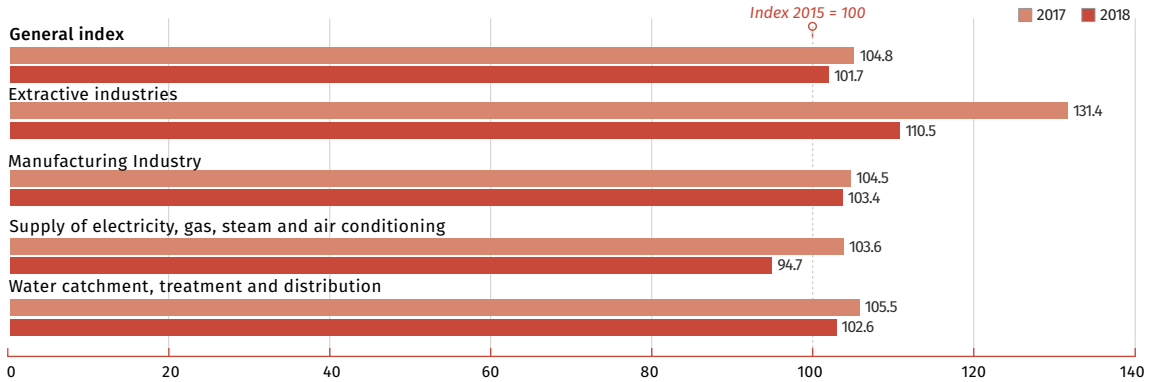
	Shellfish	Molluscs	Fish
Almeria	330,987	388,317	6,124,758
Cadiz	1,270,236	1,146,190	17,895,771
Granada	151,412	123,220	1,251,279
Huelva	1,415,782	2,459,826	8,080,779
Malaga	230,409	1,026,308	6,452,656
<b>Total Andalusia</b>	<b>3,398,825</b>	<b>5,143,860</b>	<b>39,805,244</b>

\* 28 fish markets. Unit: kilograms.

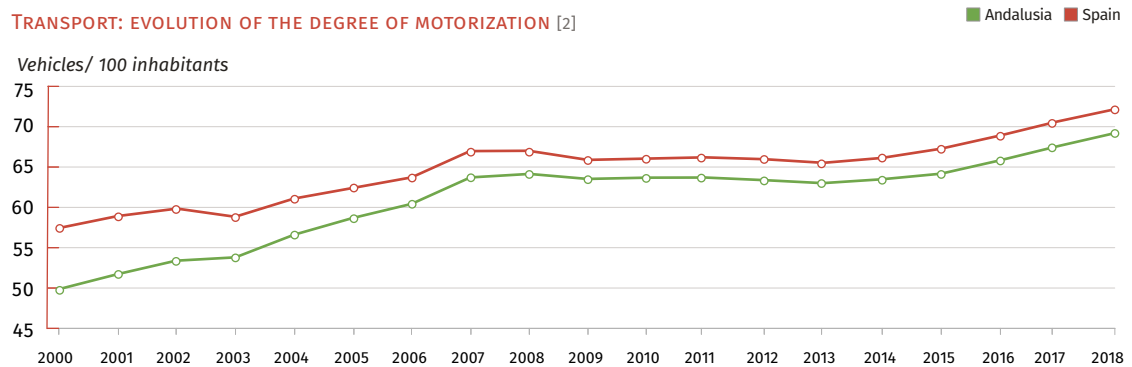
## LIVESTOCK IN ANDALUSIA [7]



### INDUSTRIAL PRODUCTION: INDEX ACCORDING TO BRANCHES OF ACTIVITY [2]

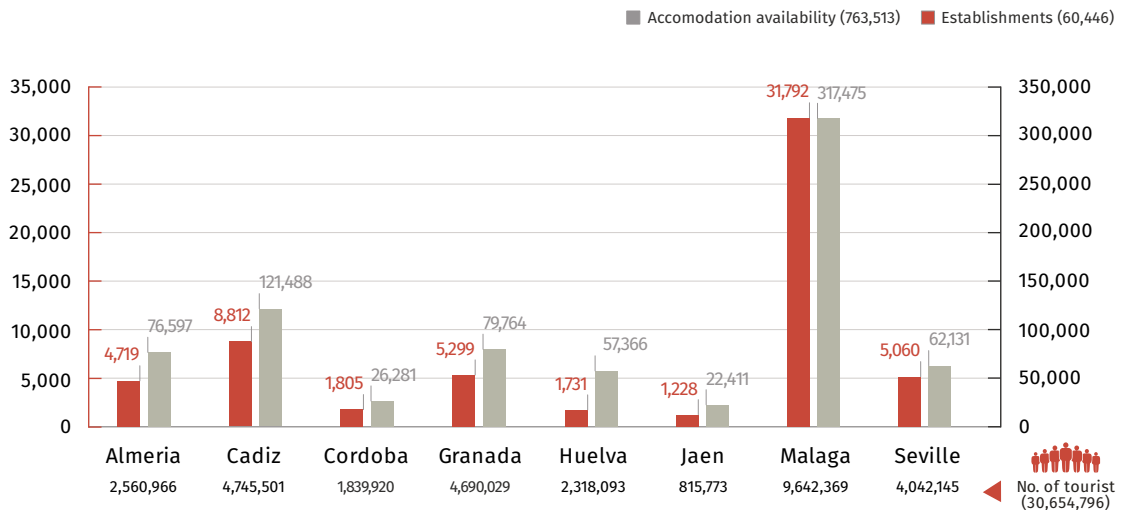


### TRANSPORT: EVOLUTION OF THE DEGREE OF MOTORIZATION [2]



2018 (provisional data): 5,809,049 vehicles in Andalusia y 33,730,398 in Spain

### TOURISM: ESTABLISHMENTS, ACCOMODATION AVAILABILITY AND TOURISTS 2018 [10] [2]

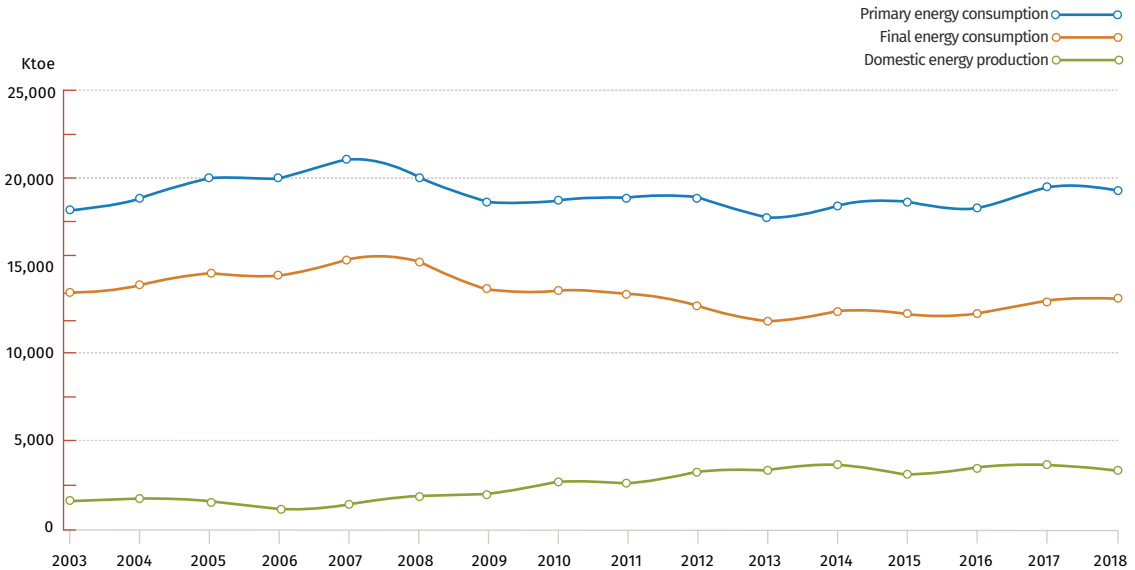


Provisional information.

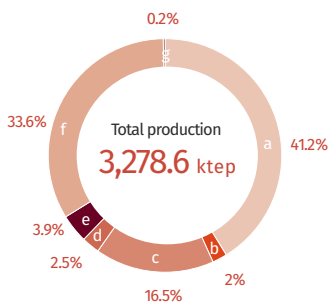
The accommodation type includes: Hotel, hotel-apartment, shelter, rural house, rural accommodation tourist housing, housing with tourist purpose, guesthouse, hostel, apartment and camp site.

In relation to primary energy, consumption has been reduced by 0.9% during the year, which has translated into a slight reduction in CO<sub>2</sub> emissions. On the other hand, final energy consumption grew slightly, by 0.4%, due to greater demand from the transport sector, while the contribution of renewable energies fell by 8.1%, mainly due to lower production from wind and solar thermal power.

EVOLUTION OF DOMESTIC ENERGY PRODUCTION AND CONSUMPTION [8]

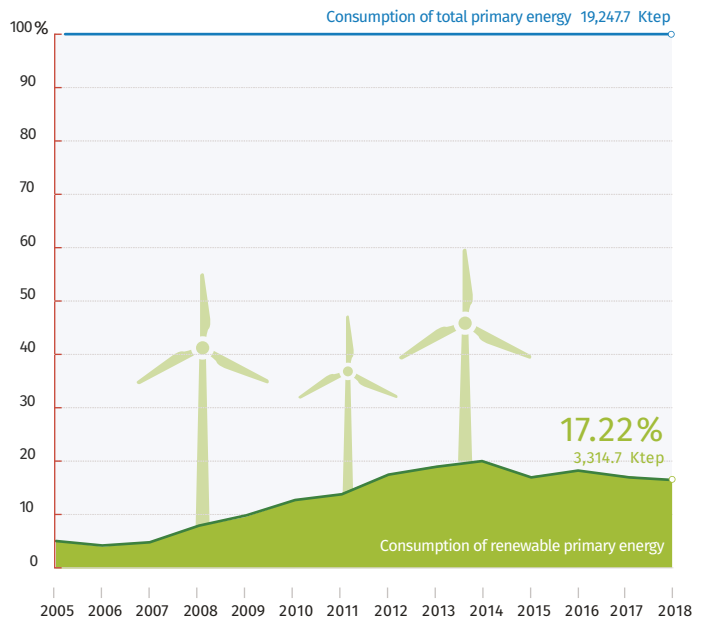


DOMESTIC ENERGY PRODUCTION 2018 [8]



Source	Production
a. Biomass	1,351.4 ktoe
b. Hydraulics	67.0 ktoe
c. Wind	540.6 ktoe
d. Solar thermal	82.0 ktoe
e. Solar photovoltaic	129.0 ktoe
f. Termosolar	1,100.9 ktoe
g. Natural gas	7.7 ktoe

RENEWABLE ENERGY PENETRATION RATE IN ANDALUSIA [8]

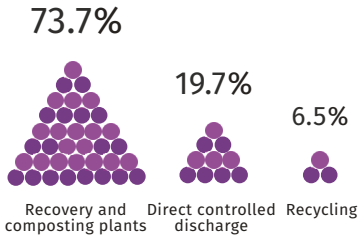


# Environmental quality and prevention

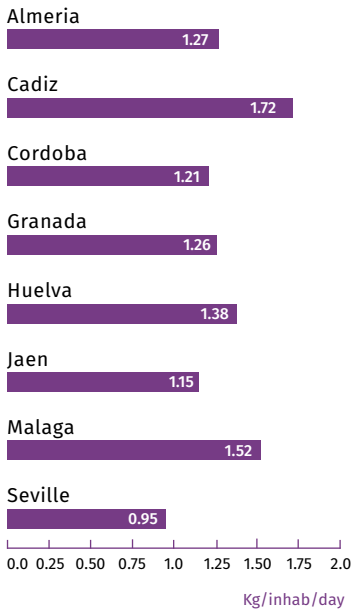
## Waste

The work of the Andalusian administration continues to be in line with the objectives proposed in European and national provisions and regulations on the prevention, recycling, recovery and disposal of waste. In this context, the concept of the circular economy stands out, which addresses all phases of a product's life cycle: from production and consumption to waste management and the market for secondary raw materials.

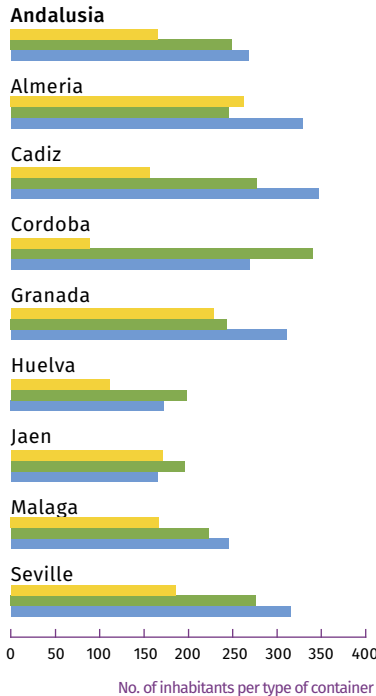
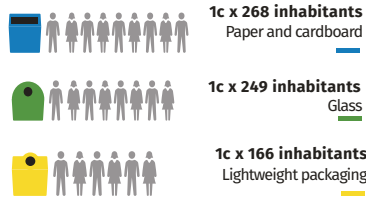
MUNICIPAL WASTE TREATMENT IN ANDALUSIA 2017



GENERATION IN MUNICIPAL WASTE 2017



CONTAINERS RATIO FOR SELECTIVE COLLECTION OF MUNICIPAL WASTE 2017



TOTAL MUNICIPAL WASTE WITHDRAWAL IN ANDALUSIA 2017

4,266.9 thousand of tonnes

GENERATION OF MUNICIPAL WASTE IN ANDALUSIA 2017

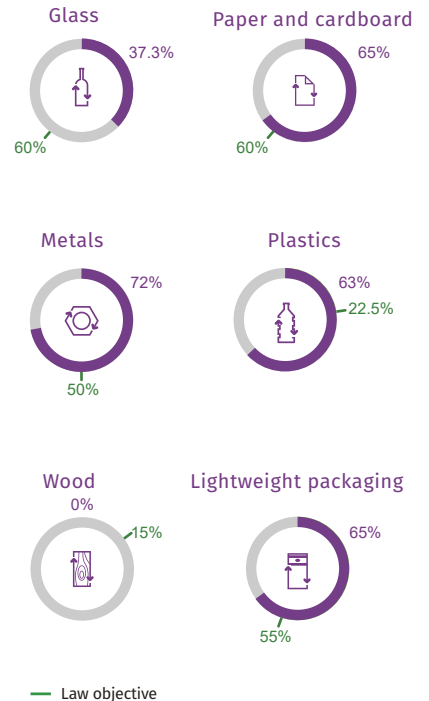
1.30 Kg/inhab/day

1.26 Kg/inhab/day in Spain [4]

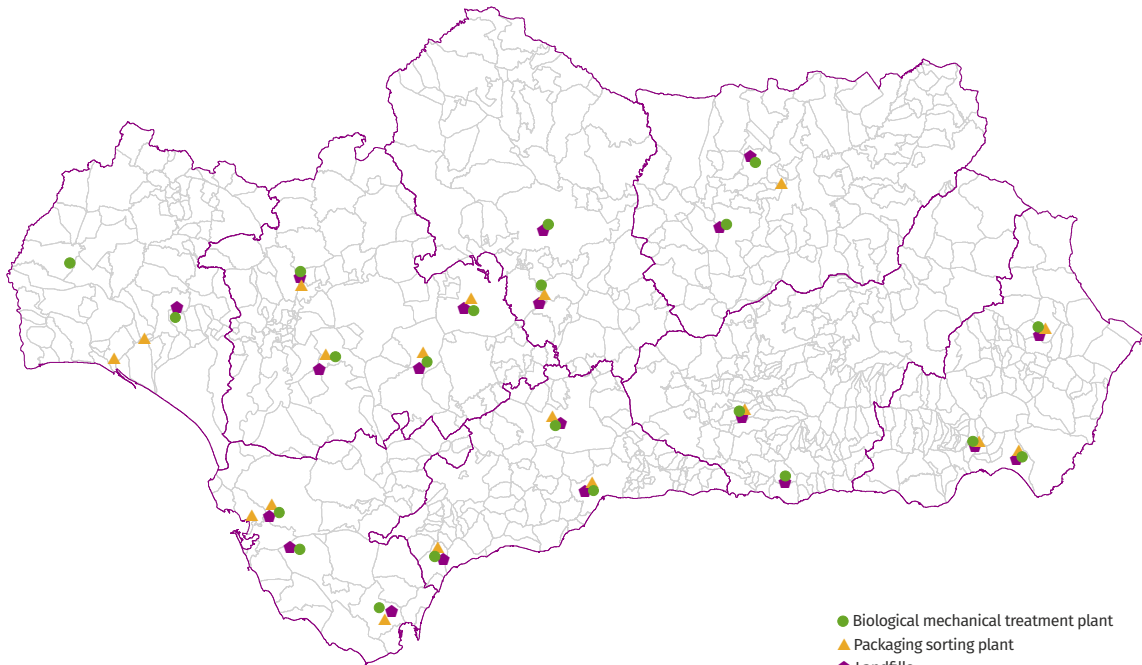
DECLARED HAZARDOUS WASTE GENERATION IN ANDALUSIA 2017

291.8 thousands of tonnes

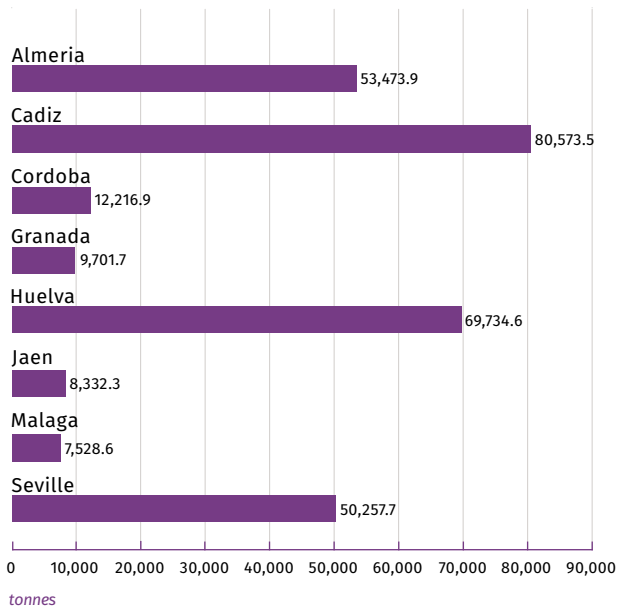
CONTAINER RECYCLING RATE 2017 [11] [12]



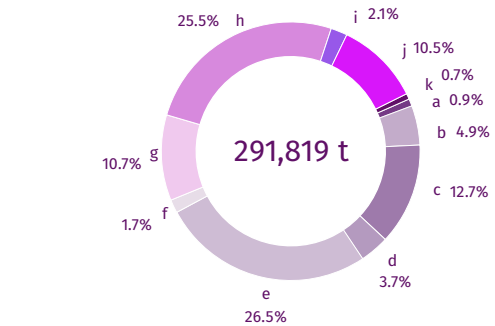




DECLARED GENERATION OF HAZARDOUS WASTE BY PROVINCE IN ANDALUSIA 2017



DECLARED GENERATION OF HAZARDOUS WASTE BY SECTOR IN ANDALUSIA 2017



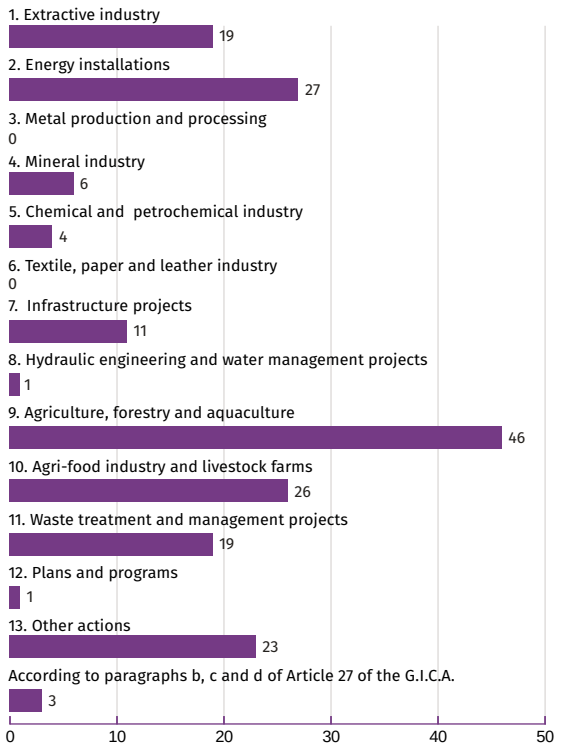
Activity sector

- a. Agriculture, agricultural industry
- b. Decontamination. Disposal of waste
- c. Energy
- d. Chemical industry
- e. Metallurgy. Mechanical and electrical construction
- f. Non-metallic minerals, building materials. Ceramics and glass
- g. Parachemistry
- h. Waste recovery
- i. Collective services
- j. Commercial services
- k. Others

### Environmental prevention

The GICA Act brings together the main orientations of the environmental prevention and control policy. Among the figures that regulate the implementation and development of polluting activities are the Integrated Environmental Authorization and the Unified Environmental Authorization, which are granted by the regional authority.

#### APPLICATIONS FOR UNIFIED ENVIRONMENTAL AUTHORISATIONS RESOLVED IN ANDALUSIA 2018

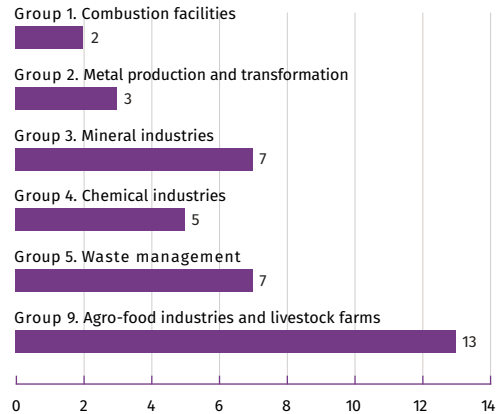


NUMBER OF OPERATING COMPANIES WITH INTEGRATED ENVIRONMENTAL AUTHORISATIONS (IEA) IN USE\*

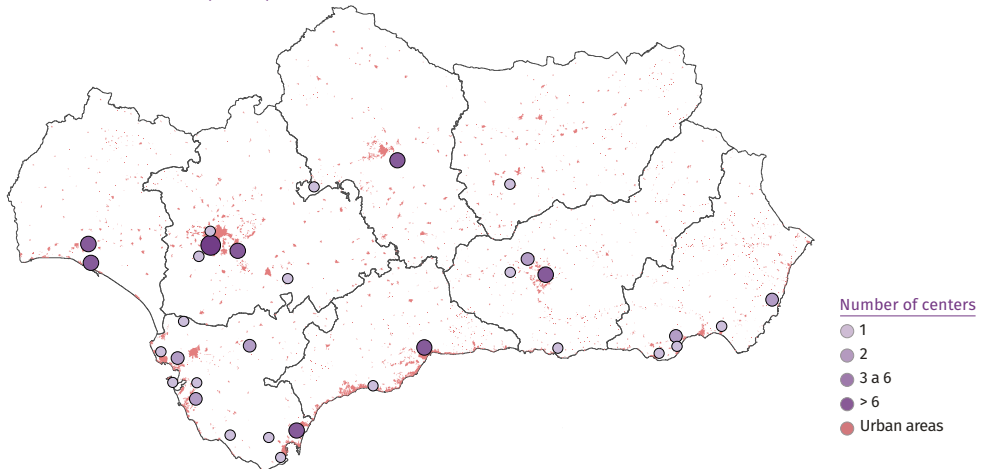
545 companies

\* As of 31 December 2019

#### APPLICATIONS FOR INTEGRATED ENVIRONMENTAL AUTHORISATIONS RESOLVED IN ANDALUSIA 2018



#### ECO-MANAGEMENT AND AUDIT SCHEME (EMAS)\* MAP IN ANDALUSIA 2019



\*The EU Eco-Management and Audit Scheme (EMAS) is a premium management instrument developed by the European Commission for companies and other organisations to evaluate, report, and improve their environmental performance.

## AIR POLLUTION EMISSIONS 2016

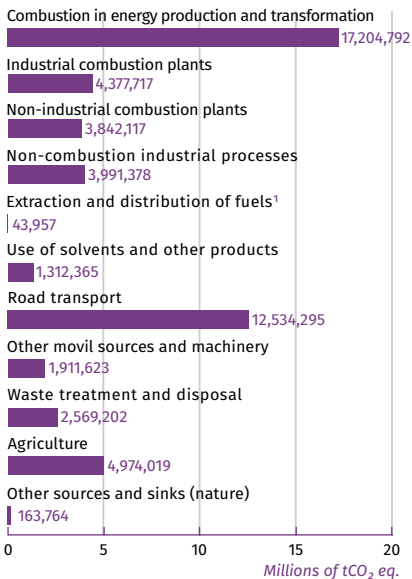
### GREENHOUSE GASES

52,925,228 tCO<sub>2</sub>eq

35,744.37 tonnes PM<sub>10</sub>

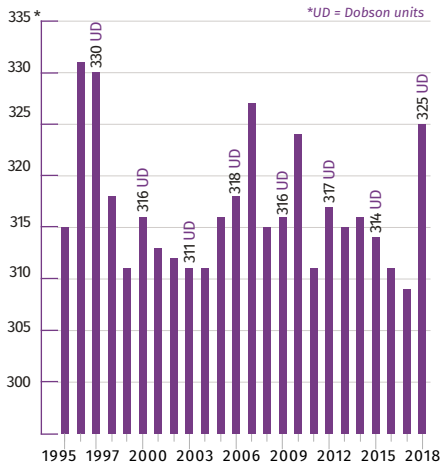
25,061.35 tonnes PM<sub>25</sub>

### ATMOSPHERIC EMISSIONS OF GREENHOUSE GASES IN ANDALUSIA 2016 (tCO<sub>2</sub>eq)



1. Fossil fuels and geothermal energy.

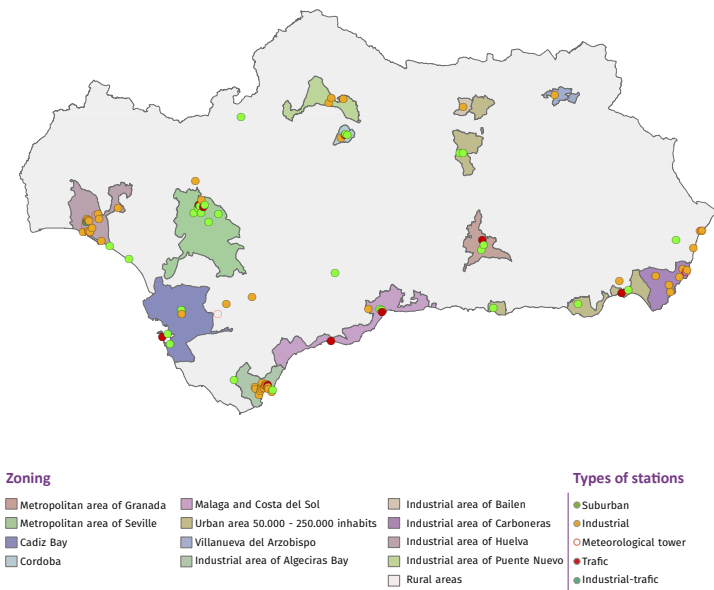
### AVERAGE OZONE LAYER THICKNESS IN ANDALUSIA



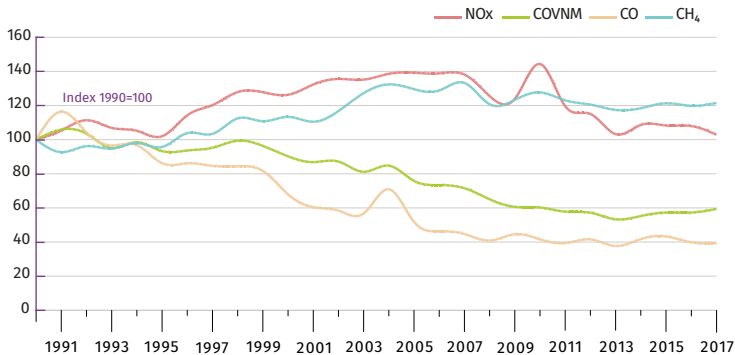
## Air quality

Air quality is of increasing concern both to relevant environmental agencies and to the public at large because of its impact on human and ecosystem health. In recent decades, air quality in Andalusia has improved considerably thanks to the implementation of a series of legal measures aimed at making socio-economic development compatible with the preservation of atmospheric quality. However, despite these efforts, it has not yet been possible to control the levels of harmful substances, such as suspended particles, nitrogen oxides and tropospheric ozone.

### AIR QUALITY SURVEILLANCE AND CONTROL NETWORK IN ANDALUSIA 2018



### EMISSIONS OF TROPOSPHERIC OZONE PRECURSOR GASES



The Andalusian Urban Agenda 2030 adapts the sustainable development objectives set out in the United Nations Agenda 2030 to the regional context. In particular objective 11, which seeks to make cities and human settlements inclusive, resilient, safe and sustainable. A major administrative coordination effort is under way to help meet this objective. In addition, a process of participatory governance has been initiated to empower the inhabitants of Andalusian cities to be the protagonists of the challenge of urban sustainability.

MUNICIPAL WASTE COLLECTION IN ANDALUSIAN CITIES 2017 [2]



	tonnes
Large cities	1,472,398
Medium-large cities	733,129
Medium cities	274,309
Medium-small cities	972,382
<b>Total cities</b>	<b>3,452,218</b>

WASTE PER CAPITA RATIO 2017 \*

**1.41** kg/inhab/day

SEPARATE COLLECTION 2017 \* [11] [12]

Lightweight packaging

**10.9** kg/inhab/year

Paper and cardboard

**10.9** kg/inhab/year

Glass

**10.2** kg/inhab/year

ELECTRICITY CONSUMPTION 2017 \* [2]

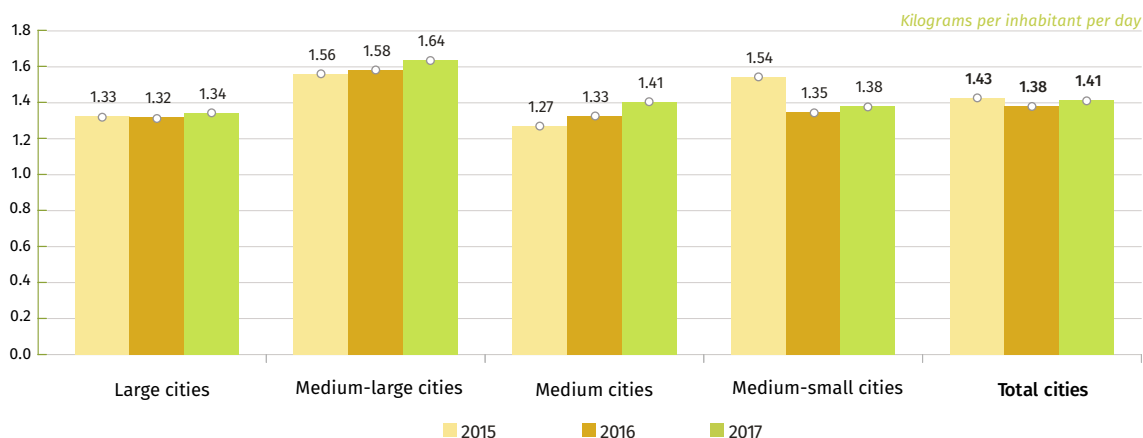
**27,009,002** MWh

NO. OF CARS PER 1,000 INHABITANTS 2018 \* [2]

**483**

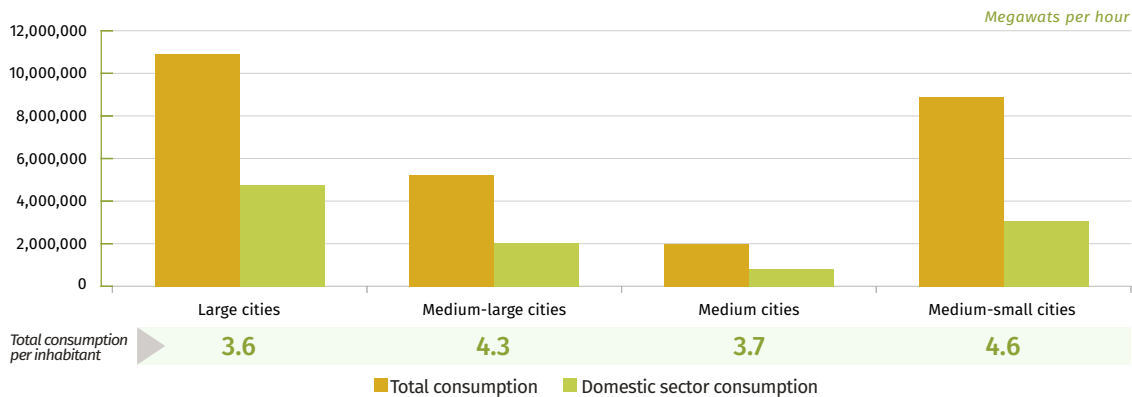
\* In municipalities with more than 10,000 inhabitants.

MUNICIPAL WASTE COLLECTION IN ANDALUSIAN CITIES [2]



**LARGE CITIES:** more than 100,000 inhabitants. **MEDIUM-LARGE CITIES:** 50,001-100,000 inhabitants. **MEDIUM CITIES:** 30,001-50,000 inhabitants. **MEDIUM-SMALL CITIES:** 10,001-30,000 inhabitants. **TOTAL CITIES:** municipalities with more than 10,000 inhabitants.

### ELECTRICAL ENERGY CONSUMPTION IN ANDALUSIAN CITIES 2017 [2]



### POLLUTING EMISSIONS FROM TRANSPORT IN ANDALUSIAN CITIES 2016



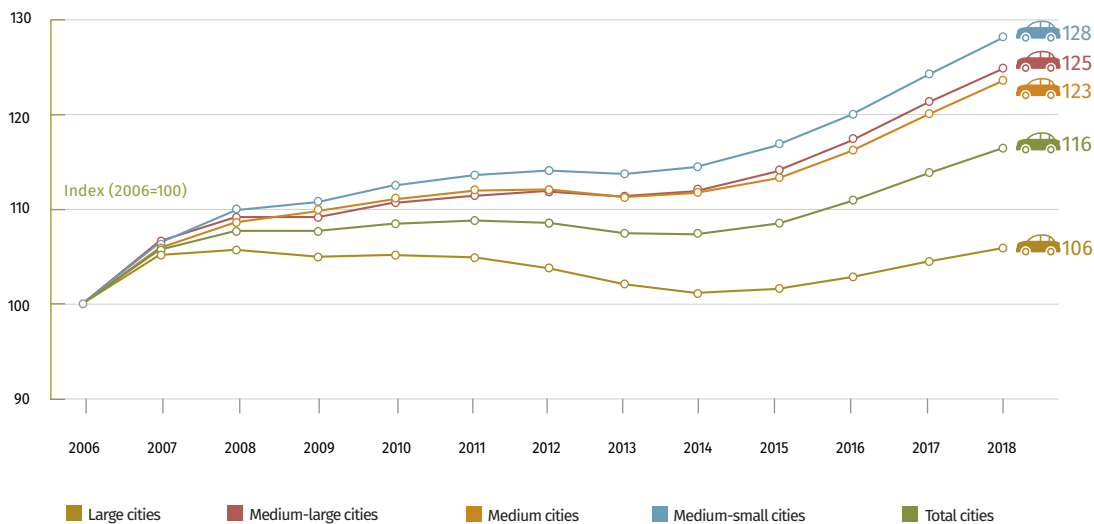
PM <sub>10</sub> (t)	1,719
PM <sub>2,5</sub> (t)	1,236
SO <sub>2</sub> (t)	43
COVNM (t)	3,375
CO (t)	21,320
NOx (t)	28,139
GHG (kt CO <sub>2</sub> eq.)	8,540

### NO. OF CARS PER 1,000 INHABITANTS 2018 [2]



Large cities	477
Medium-large cities	487
Medium cities	483
Medium-small cities	489
<b>Total cities</b>	<b>483</b>

### EVOLUTION IN THE NUMBER OF CARS IN ANDALUSIAN CITIES [2]

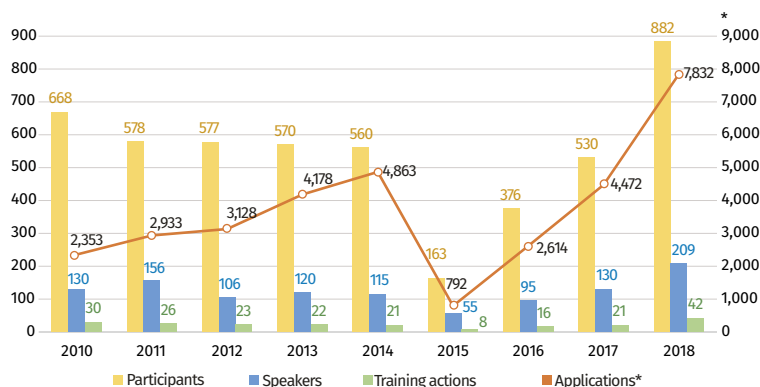


# Social participation

Social participation in environmental matters is gaining more and more strength in Andalusian society, as shown by the progress of the main programmes promoted by the regional environmental administration.

The progress of the Andalusian Environmental Training Plan is very encouraging, having resulted in a significant number of actions and participants in 2018. This year, a new edition of the Ecobarometer highlights the strengthening of environmental awareness, as well as the growing trend in Andalusian society towards environmental commitment.

## ANDALUSIAN ENVIRONMENTAL TRAINING PLAN: PARTICIPATION DATA



## TRAINING ACTIONS OF THE ANDALUSIAN ENVIRONMENTAL TRAINING PLAN 2018

42

## VOLUNTEERS IN VOLUNTEER PROGRAMS 2018

5,251

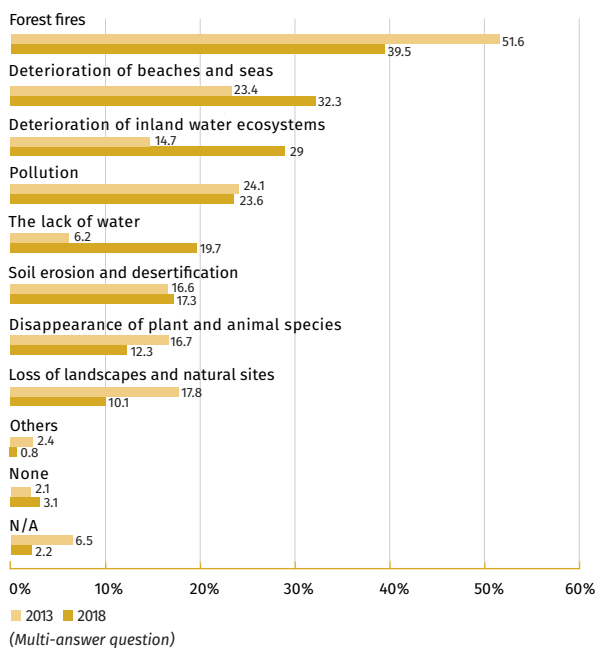
## STUDENTS IN ENVIRONMENTAL EDUCATION PROGRAMMES (ACADEMIC YEAR 2017-2018)

564,702

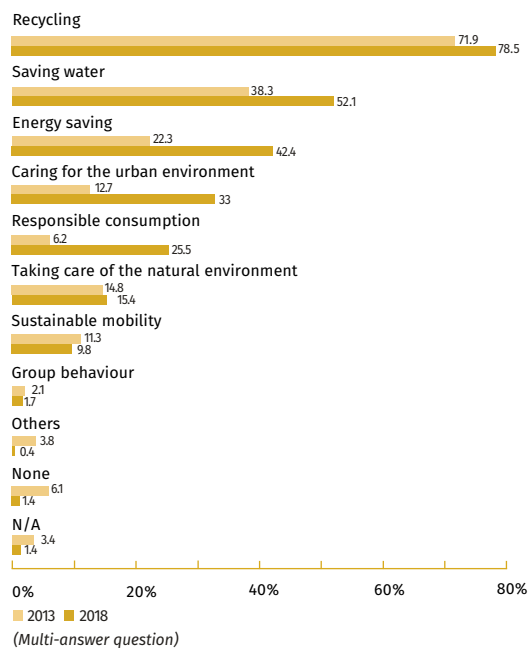
## ECOBAROMETER 2018. MAIN PRO-ENVIRONMENTAL PRACTICE OF CITIZENS: RECYCLING

78.5%

## ECOBAROMETER 2018. MAIN ENVIRONMENTAL PROBLEMS PERCEIVED BY THE POPULATION IN ANDALUSIA



## ECOBAROMETER 2018. CITIZEN BEHAVIOUR IN RELATION TO THE ENVIRONMENT IN ANDALUSIA

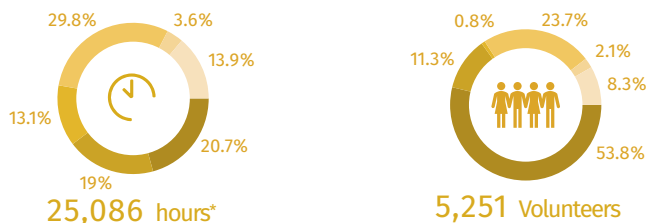


## Environmental education and volunteering

The environmental volunteer program of Andalusia 2018 has involved 5,251 participants, who have performed a total of 25,086 hours of volunteer work, distributed in the different modalities of participation. The reactivation of the Andarríos program is noteworthy, with the Ecocampus program being the most popular.

The emblematic programme of environmental education in Andalusia, ALDEA, continues to evolve favourably, both in terms of the number of centres involved and the number of participants.

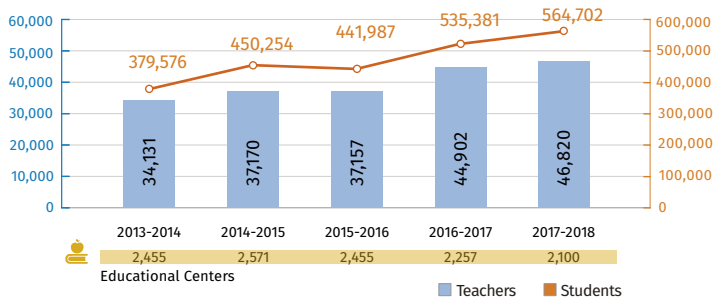
### ENVIRONMENTAL VOLUNTEER PROGRAMS: PARTICIPATION DATA 2018



Program	HVW*	Participants
Andalusian Ecocampus project	5,200	2,823
Flamingo banding	4,760	595
Environmental volunteer work camps in Andalusia	3,280	41
Defence programme on mediterranean woodland	7,470	1,245
Andarríos Program	896	112
Local environmental volunteering projects	3,480	435
<b>Total</b>	<b>25,086</b>	<b>5,251</b>

\*HVW: Hours of volunteer work.

### EVOLUTION OF THE NUMBER OF PARTICIPANTS IN THE PROGRAMME "ALDEA"\*

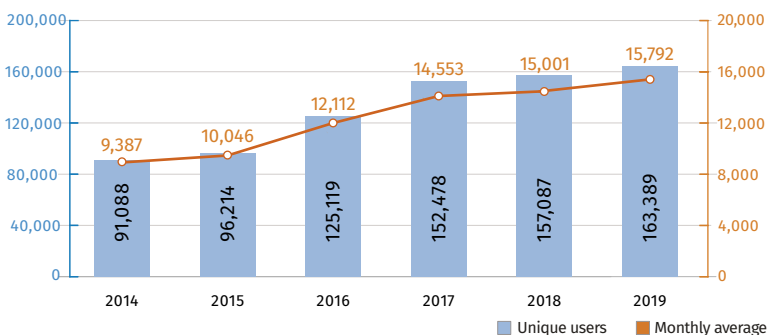


\*The ALDEA Programme is a joint initiative of the Department of Education and Sport and the CAPGDS.

## Environmental information

The regional environmental administration continues its efforts to improve access to environmental information. Through the Rediam channel, citizens have access to a wide range of web services for consulting and downloading environmental information. It should be noted that over the last few years the decrease in the number of requests for environmental information has been accompanied by an increase in the active dissemination services provided.

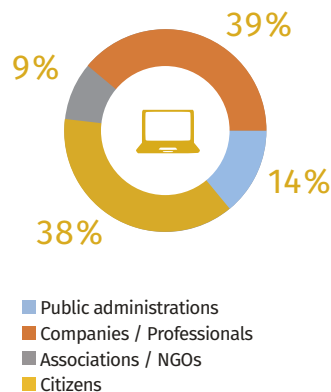
### EXTERNAL USERS IN THE REDIAM WEB CHANNEL



### PROGRAMME "ALDEA": CAMPAIGNS WITH GREATER PARTICIPATION IN 2017-2018



### REQUEST FOR ENVIRONMENTAL INFORMATION BY APPLICANT PROFILE 2019



The environmental indicators provide a very synthetic representation, in terms of monitoring, of the most significant aspects that shape the environment of Andalusia. The following list is a selection taken from the Environmental Indicator System of the Andalusian Environmental Information Network (REDIAM), which has also been published in the Andalusian Environment report 2018.

## I. ENVIRONMENTAL ELEMENTS AND FACTORS

Topic	Evolution	Status	Trend	Indicator
Climate	●	●	●	Standardized rainfall drought index
	●	●	●	Thermal anomalies and global warming index
	●	●	●	Moisture Index
	●	●	●	Thickness of the ozone layer
Water	●	●	●	Water resources available in Andalusia
	●	●	●	Surface water quality
	●	●	●	Groundwater quality
	●	●	●	Waste water sanitation and treatment
	●	●	●	Polluting load of urban effluents along the coast
	●	●	●	Industrial discharges to the coast
	●	●	●	Municipal waste production
Waste	●	●	●	Municipal waste treatment in Andalusia. Evolution per typology
	●	●	●	Selective collection and recycling
	●	●	●	Production of hazardous waste
	●	●	●	Primary energy consumption
Energy	●	●	●	Final energy consumption
	●	●	●	Evolution of the renewable energy development index



The environmental assessment of each indicator is made by considering three aspects: the evolution, the status and the trend.

The **evolution** refers to the progress of an indicator over time.

The **status** refers to an indicator's current state.

The **trend** expresses the estimated future progress of an indicator based on policies, strategies, guidelines and plans which will affect it as well as the general context.

Each one of these aspects is represented by the following symbols:

- Positive / Good result / Favourable
- Intermediate / Acceptable result / Stabilized
- Negative / Bad result / Unfavorable
- In all cases, undetermined assesment



## II. EVALUATION AND MANAGEMENT OF THE NATURAL ENVIRONMENT

Topic	Evolution	Status	Trend	Indicator
<b>Soil and erosion</b>	●	●	●	Rainfall erosivity
<b>Vegetation and drought</b>	●	●	●	Vegetation global water stress
<b>Biodiversity</b>	●	●	●	Fauna registered in Andalusia
	●	●	●	Conservation of necrophagus birds
	●	●	●	Income of animals in the CREAs
	●	●	●	Inclusion of wild flora in botanical gardens
	●	●	●	Germplasm recollection at the vegetal propagation laboratory
<b>Protected natural areas</b>	●	●	●	Protected surface in Andalusia
	●	●	●	Public use facilities in the Protected Natural Areas
	●	●	●	Forest fires
<b>Forest areas</b>	●	●	●	Phytosanitary status of forest stands
	●	●	●	Investments in forestry activities
	○	●	○	Occupancy licenses in Maritime Public Domain
<b>Coastal planning</b>	○	●	○	Authorizations for use or occupation in Maritime Public Domain
	○	●	○	Authorizations for use in the ZSP

## III. ENVIRONMENTAL QUALITY ASSESSMENT AND MANAGEMENT

Topic	Evolution	Status	Trend	Indicator
<b>Air quality</b>	●	●	●	Air quality index in Andalusia
	●	●	●	Emissions of tropospheric ozone precursor gases
	●	●	●	Emissions of acidifying and eutrophying gases
	●	●	●	Greenhouse gas emissions
	●	●	●	Greenhouse gas emission allowance trading scheme

## IV. URBAN ENVIRONMENTAL, PRODUCTIVE SYSTEM AND PLANNING

Topic	Evolution	Status	Trend	Indicator
<b>Environment and city</b>	●	●	●	Municipal waste production in Andalusian cities
	●	●	●	Selective collection of municipal waste in Andalusian cities
	●	●	●	Electricity consumption in Andalusian cities
	●	●	●	Actions in subsidized housing in Andalusian cities
	●	●	●	Number of cars in Andalusian cities
	●	●	●	Emissions from transport
<b>Environmental integration in productive sectors</b>	●	●	●	Evolution of fertilizer consumption
	●	●	●	Evolution of the organic farming surface
	●	●	●	Mobility and accessibility
	●	●	●	Territorial intensity of tourist activity in Andalusia

## V. RESEARCH, INFORMATION AND PARTICIPATION

Topic	Evolution	Status	Trend	Indicator
<b>Environmental information and research</b>	●	●	●	Access to environmental information
	●	●	●	Services offered by the Rediam web channel
<b>Environmental education</b>	●	●	●	Participation in environmental education programs ALDEA
	●	●	●	Participation in training programs at environmental education centers
<b>Environmental volunteering</b>	●	●	●	Participants in environmental volunteering programs

## Current environmental planning in Andalusia

### WATER

- █ Flood risk management plans for the internal basins of Andalusia.
- █ Hydrological plans by river basin districts.
- █ Special drought plans.

### BIODIVERSITY AND GEODIVERSITY

- █ Integrated geodiversity management strategy.
- █ Integrated biodiversity management strategy.
- █ Recovery and conservation plans for threatened species.
- █ Master Plan for the Improvement of Ecological Connectivity in Andalusia.

### ENVIRONMENTAL QUALITY

- █ Air quality improvement plans.

### CLIMATE

- █ Andalusian Strategy for Climate Change.

### ENVIRONMENTAL EDUCATION

- █ Environmental Education Strategy.



### PROTECTED NATURAL AREAS

- █ Natural resource management plans and Use and Management Master Plans.
- █ Management plans for protected areas of the Natura 2000 Network (SPASs and SACs).
- █ Sustainable development plans for national and natural parks in Andalusia.
- █ Plan for the recovery and management of livestock trade routes in the Autonomous Community of Andalusia.
- █ Andalusian Wetlands Plans.
- █ Management Strategy for Public Use in the Network of Natural Protected Areas in Andalusia. (RENPA).

### FORESTRY MANAGEMENT

- █ Andalusian Forestry Plan 2015.
- █ Andalusian Forest Fire Emergency Plan (INFOCA).
- █ Andalusian Hunting Plan.

### WASTE

- █ Territorial Master Plan for Non-Hazardous Waste in Andalusia, 2010-2019.
- █ Plan for the Prevention and management of Hazardous Waste in Andalusia, 2012-2020.



## Main environmental regulations in Andalusia

### STRUCTURE AND ORGANIZATION

President's Decree 2/2019 of 21 January on the restructuring of the Ministry (amended by President's Decree 6/2019).

Decree 103/2019 of 12 February establishing the organic structure of the Ministry of Agriculture, Livestock, Fisheries and Sustainable Development.

### WATER AND COASTAL AREAS

Law 9/2010 of July 30th, on Waters of Andalusia.

Decree 14/2005 of January 18th on the transfer of means and services by the Spanish National Government to the Andalusian Regional Government regarding Hydraulic resource management.

Decree 357/2009 of October 20th, which determines the Territorial limits of the intercommunitary river basins in Andalusia.

Decree 66/2011 of March 29th, on the transfer of means and services by the Spanish National Government to the Andalusian Regional Government regarding Coastal Area planning and management.

Decree 109/2015 of 17 March, approving the Regulations on Discharges into the Hydraulic Public Domain and the Maritime-Terrestrial Public Domain of Andalusia.

Decree 477/2015 of 17 November regulating the Collegiate Bodies for Administrative and Social Participation of the Andalusian Water Administration.

Agreement of 26 October 2010, of the Governing Council, declaring the hydraulic works aimed at fulfilling the objective of water quality in Andalusia to be of interest to the Autonomous Community of Andalusia.

### NATURAL HERITAGE

Law 2/1989 of July 18th, approving the Inventory of Protected Natural Areas of Andalusia and establishes additional protecting measures.

Law 2/1995 of June 1st, modifying the Law 2/1989 of July 18th, approving the Inventory of

Protected Natural Areas of Andalusia and establishing additional protecting measures.

Law 8/1999 of October 27th on the Natural Area of Doñana.

Law 8/2003 of October 28th, on Wild Flora and Fauna.

Decree 225/1999 of November 9th on the regulation and development of the natural monument of Andalusia protection figure.

Decree 95/2003 of April 8th, on the regulation of the Network of Protected Natural Areas and their Registry.

Decree 98/2004 of March 9th, creating the Inventory of Wetlands of Andalusia and the Andalusian Committee on Wetlands.

Decree 137/2006 of July 4th, on the transfer of functions and services by the Spanish National Government to the National Parks of Doñana and Sierra Nevada.

Agreement of 27 November 2018, of the Governing Council, approving the proposal to declare the Sierra de las Nieves National Park.

### FOREST MANAGEMENT

Law 2/1992 of July 15th on Andalusian Forestry.

Law 5/1999 of July 29th on forest firefighting and prevention.

Law 7/2010 of July 14th, on the "Dehesa".

Decree 247/2001 of November 13th, approving forest firefighting and prevention regulation.

Decree 182/2005 of July 26th approving the Hunting Management Rules.

Decree 232/2007 of July 31st, approving the Andalusian Hunting Plan.

Decree 371/2010 of September 14th approving the Andalusian Forest Fire Emergency Plan and modifies the Forest Fire Prevention and Firefighting Regulations approved by the Decree 247/2001 of November 13th.

### ENVIRONMENTAL QUALITY AND PREVENTION

Law 7/2007 of July 9th, on the integrated management of environmental quality.

Law 3/2015 of 29 December on Measures for Integrated Management of Environmental Quality, Water, Taxes and Animal Health.

Law 8/2018 of 8 October on measures to combat climate change and for the transition to a new energy model in Andalusia.

Decree 6/2012 of January 17th, which approving the Regulation on protection against noise pollution in Andalusia, and modifying Decree 357/2010 of August 3rd, approving the Night Sky Quality Protection Regulations against light pollution.

Decree 7/2012 of January 17th, approving the Plan for the prevention and management of hazardous waste in Andalusia 2012-2020.

Decree 73/2012 of March 20th, approving the Regulation of waste of Andalusia.

Decree 231/2013 of December 3rd, which approving improvement plans for air quality for certain areas in Andalusia.

Agreement of 19 March 2019, of the Governing Council, approving the formulation of the Integral Waste Plan of Andalusia. Towards a Circular Economy in the Horizon 2030 (PIRec 2030).

### ENVIRONMENTAL INFORMATION

Law 3/2013 of 24 July, approving the Statistical and Cartographic Plan of Andalusia 2013-2017 (amended by Law 6/2017 of 27 December, extending the validity of the Plan until 2020).

Law 1/2014, of June 24, on Public Transparency of Andalusia.

Decree 347/2011 of November 22nd approving the structure and functioning of the Andalusian Environmental Information Network and the access to environmental information.

# Directory and information sources

## CONSEJERÍA DE AGRICULTURA, GANADERÍA, PESCA Y DESARROLLO SOSTENIBLE

C/ Tabladilla, S/N Avda. Manuel Siurot, 50, 41071 Seville.

GABINETE DE LA CONSEJERA

VICECONSEJERÍA

Secretaría General Técnica

Dirección General de Pesca y Acuicultura

SECRETARÍA GENERAL DE AGRICULTURA, GANADERÍA Y ALIMENTACIÓN

SECRETARÍA GENERAL DE FONDOS EUROPEOS AL DESARROLLO RURAL SOSTENIBLE

SECRETARÍA GENERAL DE MEDIO AMBIENTE, AGUA Y CAMBIO CLIMÁTICO

### Associated entities

Agencia de Gestión Agraria y Pesquera de Andalucía

Instituto Andaluz de Investigación y Formación Agraria, Pesquera, Alimentaria y de Producción Ecológica

Agencia de Medio Ambiente y Agua

Fundación para el Desarrollo Sostenible de Doñana y su Entorno

Fundación Centro de Nuevas Tecnologías del Agua

### Information services

- Web Site of Consejería de Agricultura, Ganadería, Pesca y Desarrollo Sostenible (CAGPDS):  
[juntadeandalucia.es/organismos/agriculturaganaderiapescaydesarrollosostenible](http://juntadeandalucia.es/organismos/agriculturaganaderiapescaydesarrollosostenible)

- Web Site of Medio Ambiente, Agua y Cambio Climático (CAGPDS):  
[www.juntadeandalucia.es/medioambiente/site/portalweb](http://www.juntadeandalucia.es/medioambiente/site/portalweb)

- Citizen helpline: 954 54 44 38

- Citizen mailbox: [www.juntadeandalucia.es/medioambiente/buzondelciudadano](http://www.juntadeandalucia.es/medioambiente/buzondelciudadano)

- REDIAM Channel: [www.juntadeandalucia.es/medioambiente/rediam](http://www.juntadeandalucia.es/medioambiente/rediam)

## Territorial offices (Desarrollo Sostenible)

### Almería

C/Canónigo Molina, 8  
04004 Almería

### Cádiz

Plaza de Asdrúbal, 6  
Edif. de la Junta de Andalucía  
11071 Cádiz

### Córdoba

C/Tomás de Aquino, s/n  
Edif. Servicios Múltiples,  
4ª – 8ª planta  
14071 Córdoba

### Granada

C/Joaquína Eguaras, 2  
Edif. Almanjazar  
18071 Granada

### Huelva

C/Sanlúcar de Barrameda, 3  
C/Emires, 2, A  
21071 Huelva

### Jaén

C/Dr. Eduardo García-Triviño  
López, 15  
23071 Jaén

### Malaga

Avda. de la Aurora, 47  
Edif. de Usos Múltiples,  
5ª y 6ª plantas.

C/ Mauricio Moro Pareto, 2. Bloque sur,  
3ª planta.

Paseo de Reding, 20. Palacio de la Tinta.  
29071 Málaga

### Seville

Avda. de Grecia, s/n  
Edif. Administrativo, Los Bermejales  
41071 Sevilla

## Information sources

[1] Instituto Nacional de Estadística.

[2] Instituto de Estadística y Cartografía de Andalucía.

[3] Eurostat.

[4] Ministerio para la Transición Ecológica y el Reto Demográfico.

[5] Asociación de Educación Ambiental y del Consumidor (ADEAC).

[6] Consejería de Salud y Familias.

[7] Ministerio de Agricultura, Pesca y Alimentación.

[8] Agencia Andaluza de la Energía.

[9] Extenda (Agencia Andaluza de Promoción Exterior).

[10] Consejería de Turismo, Regeneración, Justicia y Administración Local.

[11] Ecovidrio.

[12] Ecoembes.

The information whose source is not mentioned corresponds to the Red de Información Ambiental de Andalucía (REDIAM) of the Consejería de Agricultura, Ganadería, Pesca y Desarrollo Sostenible.

